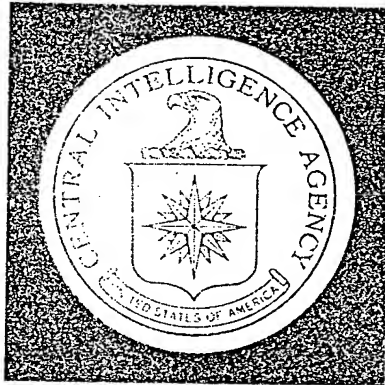


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DIRECTORATE OF
INTELLIGENCE

CIA HISTORICAL REVIEW PROGRAM
RELEASE IN FULL 1998

Intelligence Handbook

*Soviet Ground Force Weapons
and Armored Vehicles*

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SR IH 69-3
August 1969

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declassification

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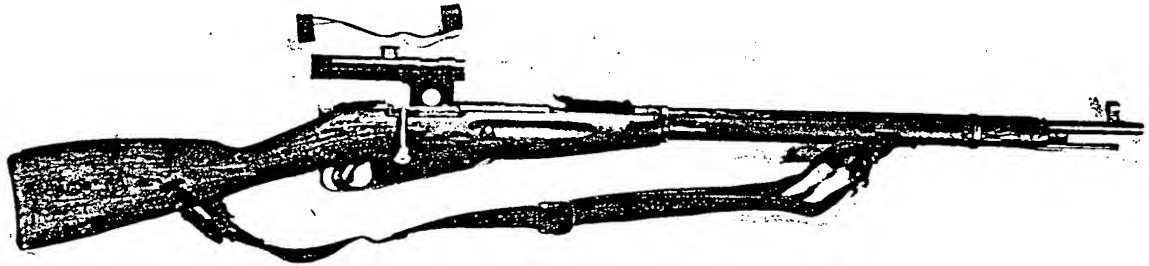
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SMALL ARMS AND MACHINE GUNS

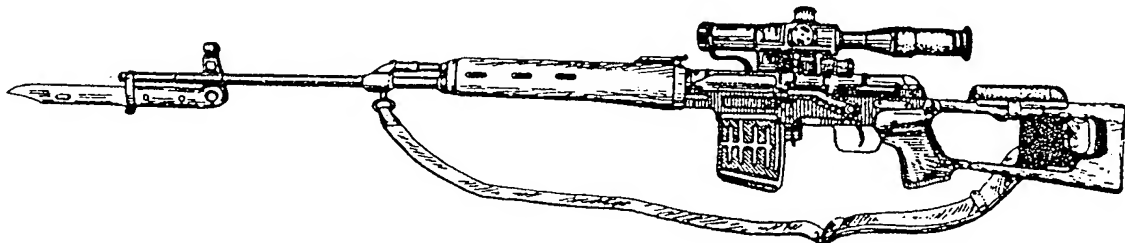
M-1891/30 Mosin-Nagant Sniper Rifle



Weight	11.3 lbs
Ammunition	7.62mm M-1908 rimmed
Operation	turning bolt
Magazine capacity	5 rounds
Effective range (with scope)	875 yds

Sniper version of M-1891/30 which was standard Soviet rifle from 1891 to 1944. Sniper rifle still used in USSR, Eastern Europe, and Communist China, and by Communist forces in South Vietnam. Being replaced in Soviet units by Dragunov.

SVD Dragunov Sniper Rifle



Introduced	mid-1960s
Weight	9.4 lbs
Ammunition	7.62mm M-1908 rimmed
Operation	gas, semiautomatic
Magazine capacity	10 rounds
Effective range (with scope)	875 yds

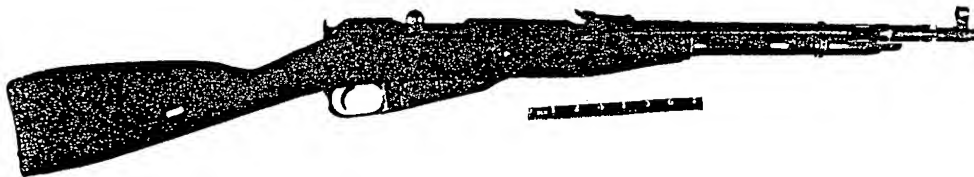
Based on AK-47 but has longer barrel, redesigned trigger, and flash suppressor. Side-mounted 4-power scope with infrared viewing device.

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SMALL ARMS AND MACHINE GUNS

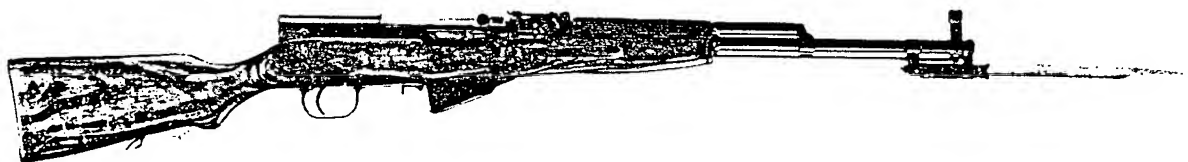
M-1944 Mosin-Nagant Carbine



Introduced	1944
Weight	8.6 lbs
Ammunition	7.62mm M-1908 rimmed
Operation	bolt
Magazine capacity	5 rounds
Effective range	440 yds

Last of the Mosin-Nagant rifles. Derived from M-1891/30 which it replaced as standard Soviet rifle. M-1944 is shorter and has folding bayonet. Was itself replaced in Soviet forces by SKS and AK-47, but is still used in some Warsaw Pact and Asian Communist countries.

SKS Simonov Carbine



Introduced	1949
Weight (loaded)	8.84 lbs
Ammunition	7.62mm M-1943 short round
Operation	gas, semiautomatic
Rate of fire	35-40 rpm
Magazine capacity	10 rounds
Effective range	440 yds

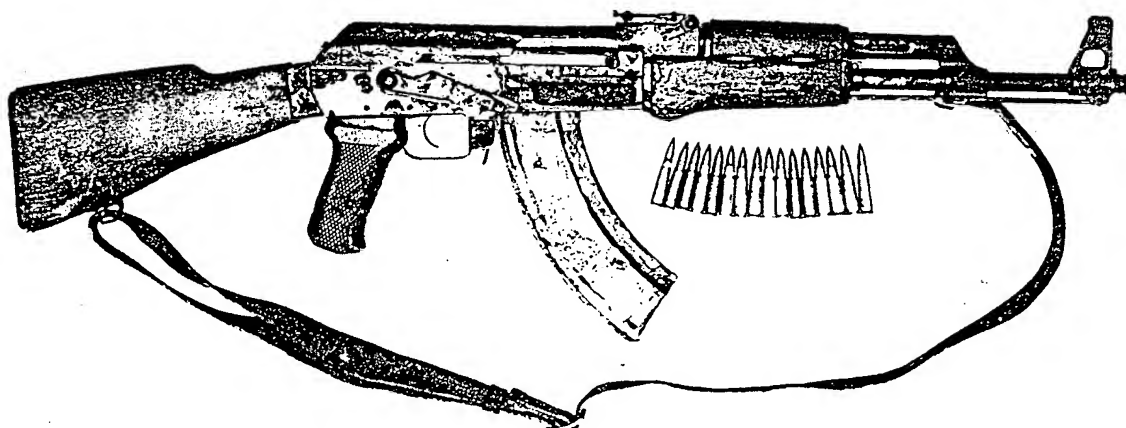
Now largely replaced in Soviet forces by AK-47. Still used in other Warsaw Pact forces and in nations receiving Soviet military aid. Also manufactured and extensively exported to Asian and African countries by Communist China. Chinese version distinguishable from SKS by bayonet which folds down under barrel.

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SMALL ARMS AND MACHINE GUNS

AK-47 Kalashnikov Assault Rifle



Introduced	1947
Weight (loaded)	10.58 lbs
Ammunition	7.62mm M-1943 intermediate round
Operation	gas
Rate of fire,	
automatic	100 rpm
semiautomatic	40 rpm
Magazine capacity	30 rounds
Effective range	440 yds

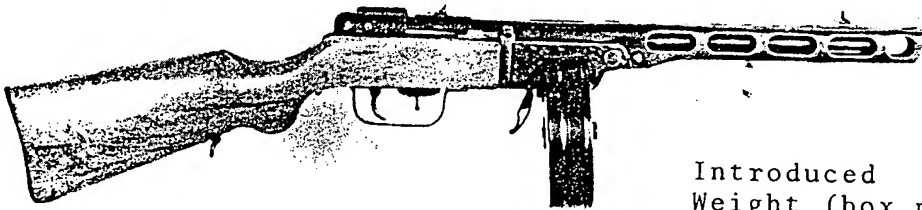
Being replaced by the AKM which is nearly identical but almost two pounds lighter. Versions with folding stock are used by special units such as artillery, airborne, and tank troops. AK-47 is used by Warsaw Pact forces, in countries which have received Soviet military aid, and extensively by Communist forces in South Vietnam. Communist China and North Korea produce version of AK-47.

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SMALL ARMS AND MACHINE GUNS

PPSh Shpagin Submachine Gun (M-1941)



Introduced	1941
Weight (box magazine, loaded)	9.26 lbs
Ammunition	7.62mm M-1930
Operation	pistol blowback, automatic or semiautomatic
Rate of fire, automatic	100 rpm
Magazine capacity, box	35 rounds
drum	71 rounds
Effective range	220 yds

Ruggedly and cheaply built. First models used drum magazine. Has been replaced in Soviet forces by AK-47. Communist China manufactures version called Type 50 with about the same performance. Type 50 has pistol grip and folding stock but no barrel shield. PPSH and Type 50 are used in countries which have received Soviet and Chinese military aid.

PPS Sudayev Submachine Gun



Introduced	1943
Weight (loaded)	7.98 lbs
Ammunition	7.62mm M-1930
Operation	pistol blowback, automatic or single shot
Rate of fire	100 rpm
Magazine capacity	35 rounds
Effective range	220 yds

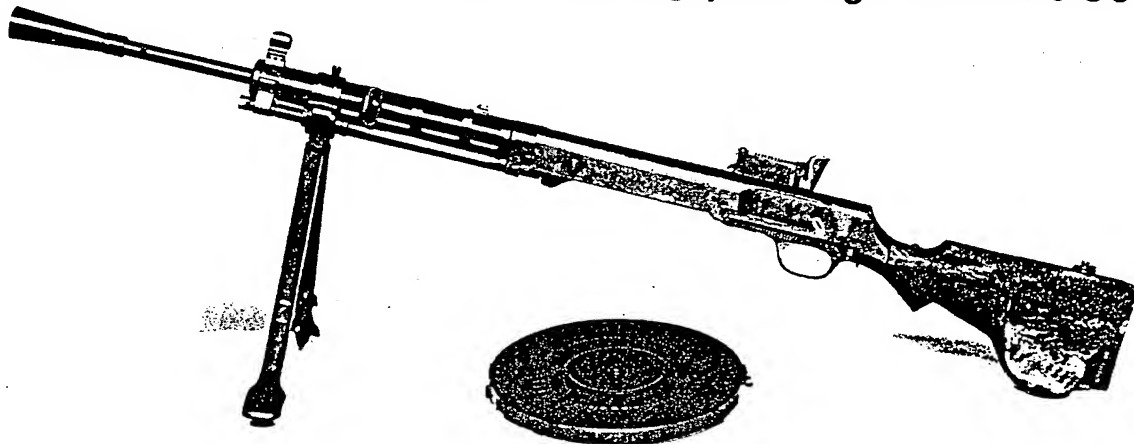
Like PPSH, has been replaced in Soviet forces by AK-47. PPS is lighter than PPSH, has folding stock, and operates only with box magazine. Used extensively in Southeast Asia.

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SMALL ARMS AND MACHINE GUNS

DP, DPM Degtyarev Light Machine Gun



First observed	late 1920s
Weight (loaded)	27.2 lbs
Ammunition	7.62mm
Operation	gas, automatic
Rate of fire	150 rpm
Magazine capacity	47 rounds
Effective range	880 yds

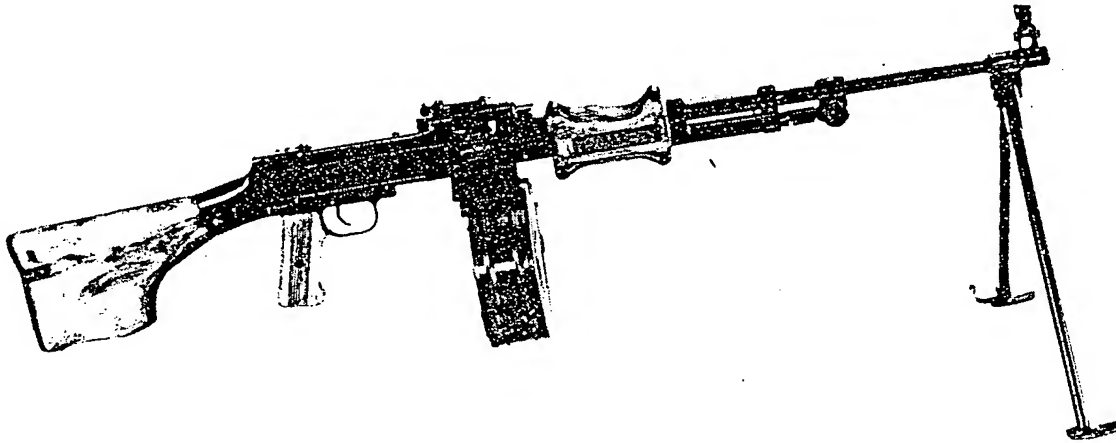
DP together with DPM modified version was standard Soviet squad light machine gun until introduction of RPD in 1949. DP and DPM have slotted barrel casing and pan-type magazine mounted on top of gun. Although obsolete by present Soviet standards, they are used in countries which have received Soviet military aid. Similar RP-46 model uses belt feed and has handle on top.

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SMALL ARMS AND MACHINE GUNS

RPD Light Machine Gun



First observed	1948
Weight (loaded)	15.6 lbs
Ammunition	7.62mm
Operation	gas, automatic
Rate of fire	150 rpm
Magazine capacity	100 rounds
Effective range	875 yds

Standard squad automatic weapon until replaced by RPK. Has drum magazine and bipod mounted near muzzle. Used in countries--particularly in Southeast Asia--which have received Soviet military aid.

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SMALL ARMS AND MACHINE GUNS

RPK Kalashnikov Light Machine Gun



Introduced	1961
Weight (with empty drum)	12.3 lbs
Ammunition	7.62mm M-1943 short round
Operation	gas, automatic
Rate of fire	130-150 rpm
Magazine capacity,	
box	40 rounds
drum	70 rounds
Effective range	875 yds

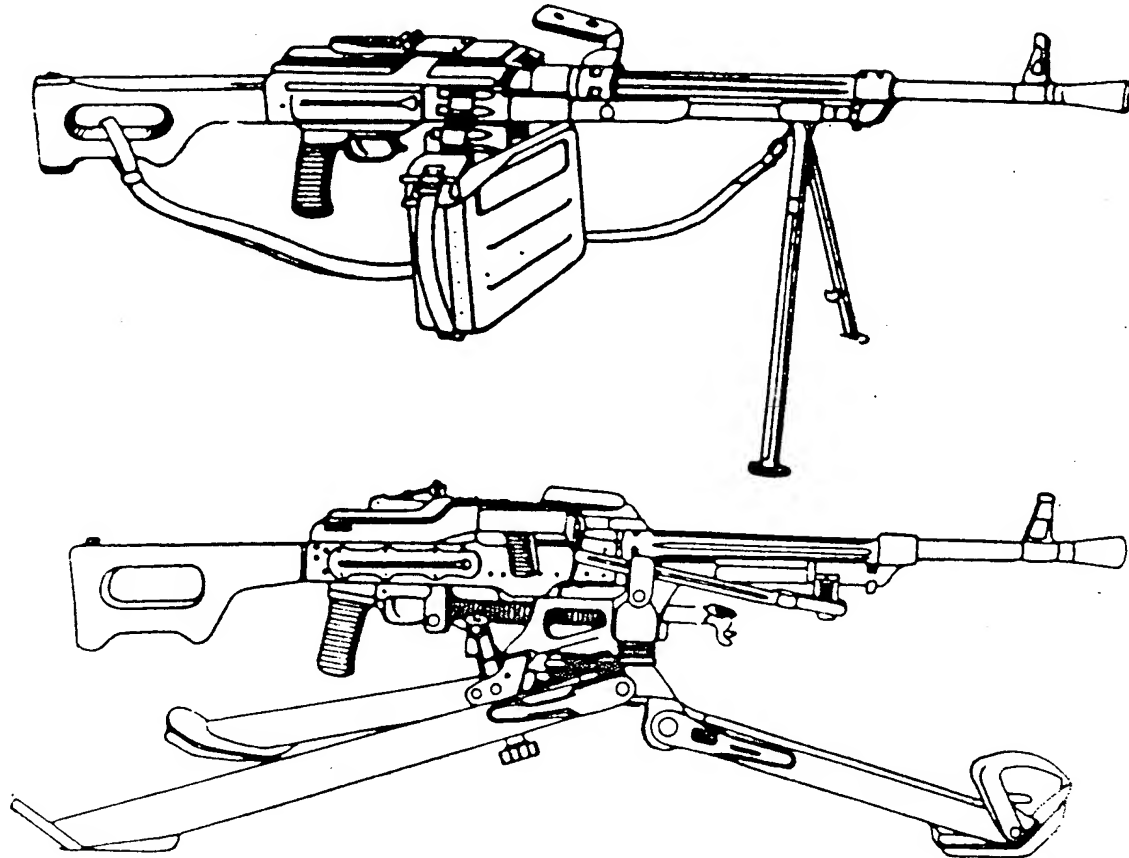
Standard Soviet squad light machine gun. Essentially the AK-47 assault rifle with longer, heavier barrel, bipod, differently shaped stock, and larger-capacity magazine. Some parts are interchangeable; for example, AK-47 magazine can be used on RPK. RPK is used in some Warsaw Pact countries but has not yet appeared in Southeast Asia.

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SMALL ARMS AND MACHINE GUNS

PK Kalashnikov General Purpose Machine Gun



First observed	mid-1960s
Weight (with empty drum)	12.3 lbs
Ammunition	7.62mm M-1943 short round
Operation	gas, automatic
Rate of fire	130-150 rpm
Magazine capacity,	
box	40 rounds
drum	70 rounds
Effective range	875 yds

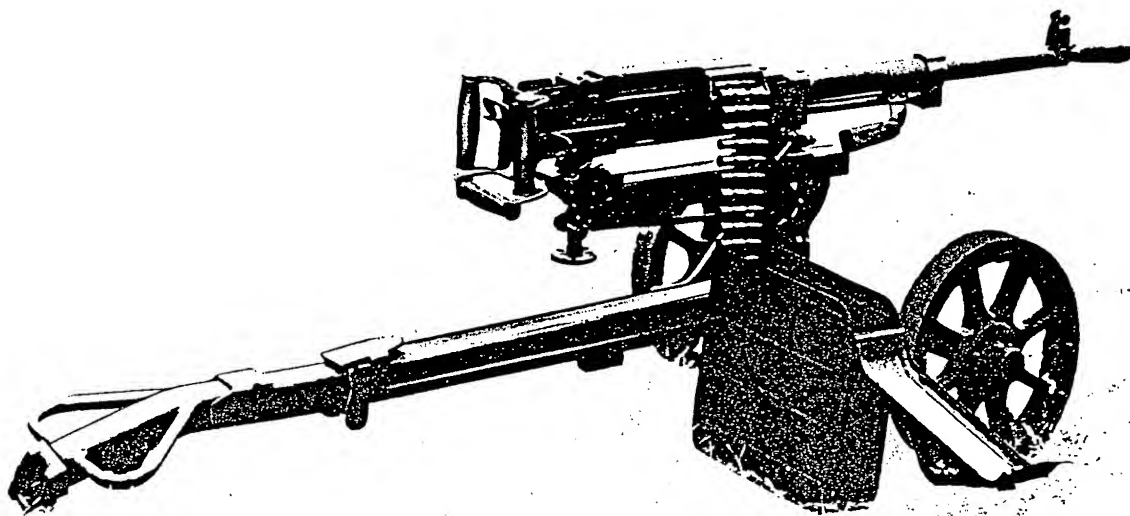
A further modification of AK-47 and RPK. PK uses rimmed cartridge, is belt fed, has different receiver and gas cylinder, and provision for mounting gun on tripod.

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SMALL ARMS AND MACHINE GUNS

**SG, SGM Goryunov Machine Gun
(M-1943)**



First observed	late World War II
Weight (gun only)	29.8 lbs
Ammunition	7.62mm M-1930D
Operation	gas, automatic
Rate of fire	250-300 rpm
Effective range	about 1,100 yds

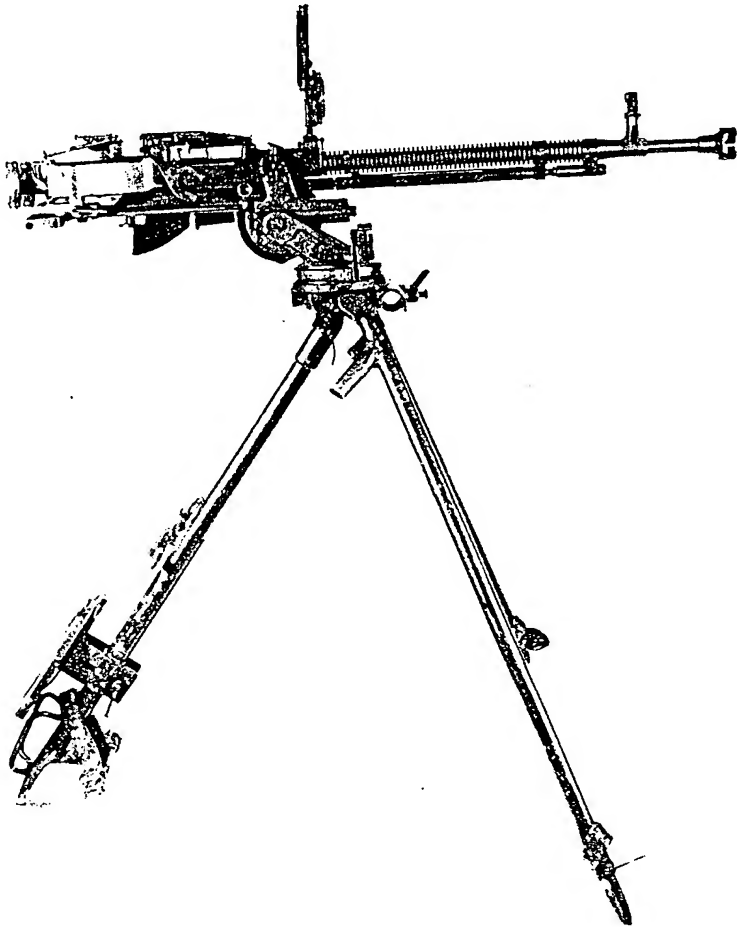
Has been modified for mounting on tanks and APCs. Usually found on two-wheel mount. SGM distinguishable by fluted barrel. Being replaced in ground support role by PK Kalashnikov general purpose machine gun. Used by countries which have received Soviet military aid.

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SMALL ARMS AND MACHINE GUNS

**DShK Degtyarev-Shpagin Heavy Machine Gun
(M-1938/45)**



Introduced	1946
Weight (gun only)	75 lbs
Ammunition	12.7mm rimless
Operation	gas, automatic
Rate of fire	125 rpm
Effective range,	
ground targets	3,300 yds
air targets	3,000 ft

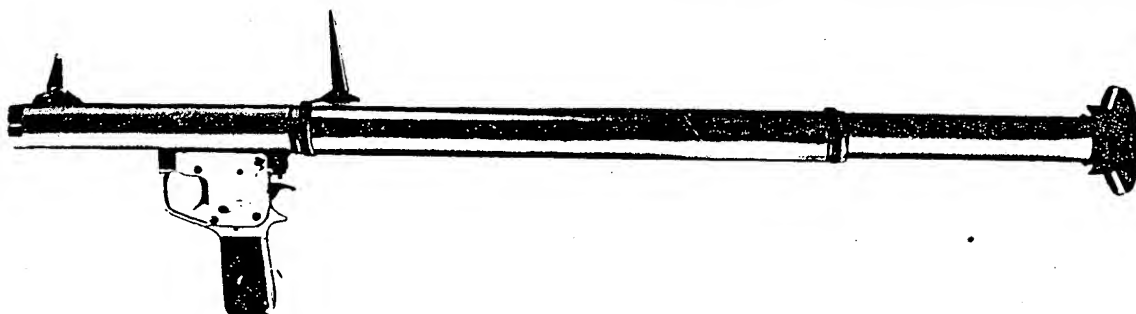
Designed for use against aircraft and lightly armored ground targets, and adopted as primary AA machine gun on tanks and assault guns. Ground version is mounted on two-wheel carriage. Vehicle-mounted version is being replaced in Soviet units by KPV 14.5mm heavy machine gun, which is similar to ZPU-1. Used extensively and effectively by Communist forces in Southeast Asia as AA weapon, particularly against helicopters.

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RECOILLESS ANTITANK WEAPONS

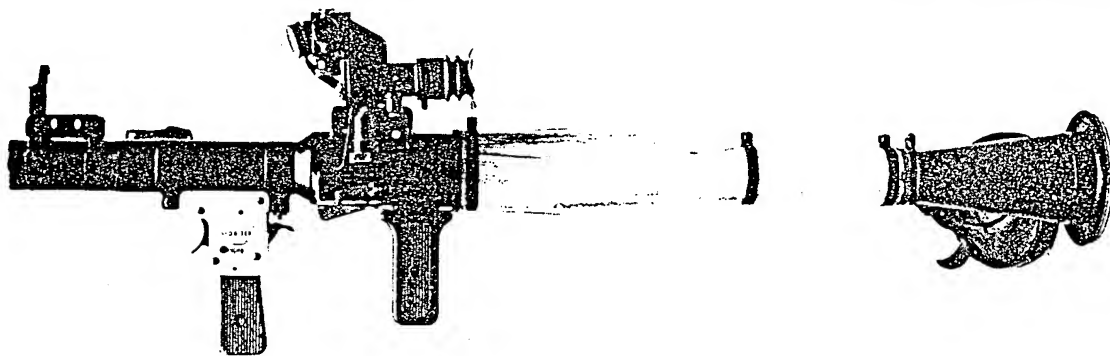
RPG-2 Antitank Grenade Launcher



Introduced	late 1940s
Weight	6.3 lbs
Length	37.5 inches
Caliber	80mm
Range	109 yds
Armor penetration	6-7 inches

Light recoilless, shoulder-fired rocket developed from German "Panzerfaust." Effective against tanks at short range. Being replaced by RPG-7. Used in most countries which have received Soviet military aid.

RPG-7 Antitank Grenade Launcher



Introduced	1962
Weight	15 lbs
Length	37.5 inches
Caliber	80mm
Range	547 yds
Armor penetration	12 inches

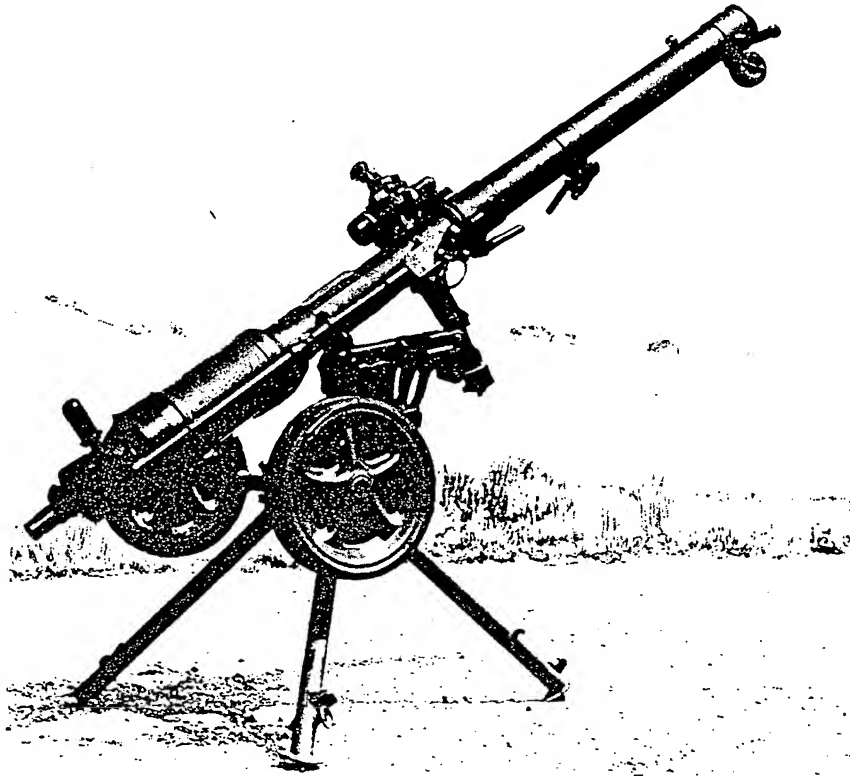
Replacing RPG-2 and essentially same type of weapon. RPG-7 fires rocket-assisted projectile having greater range, penetration, and accuracy. Used in USSR and other Warsaw Pact countries, in Middle East, and by Communist forces in South Vietnam.

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RECOILLESS ANTITANK WEAPONS

B-10 Recoilless Rifle



Introduced	early 1950s
Weight	188 lbs
Length	6.4 ft
Caliber	82mm
Range	430 yds
Armor penetration	9.4 inches

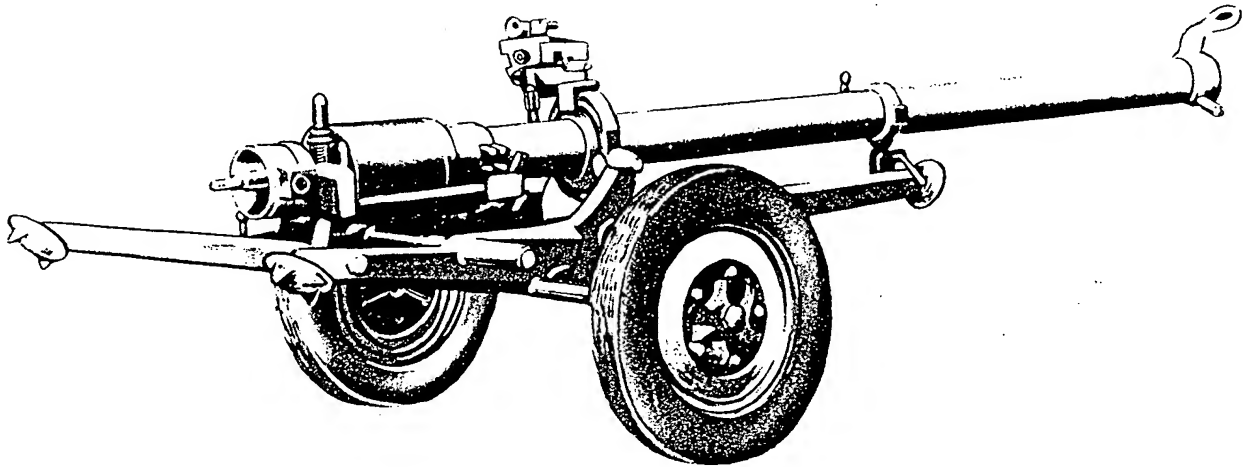
Smoothbore recoilless weapon fired from two-wheel mount or tripod. Can be hand-towed by bars on muzzle or mounted on truck. Used in Soviet airborne units and other Warsaw Pact forces.

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RECOILLESS ANTITANK WEAPONS

B-11 Recoilless Rifle



Introduced	early 1950s
Weight	670 lbs
Length	11.1 ft
Caliber	107mm
Range	500 yds
Armor penetration	15 inches

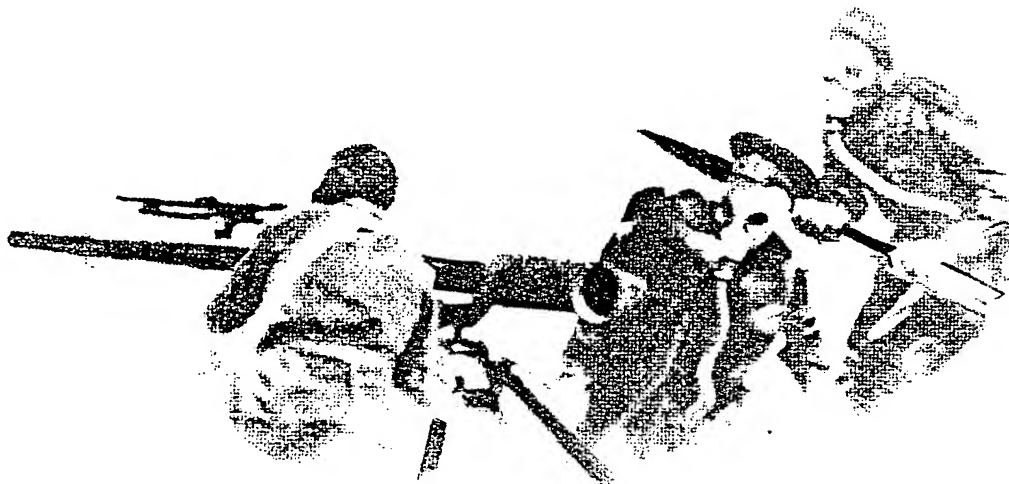
Largest Soviet recoilless weapon. Fired from wheeled mount or from tripod with wheels removed. Nearly obsolete in Soviet units but still used by other Warsaw Pact forces.

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RECOILLESS ANTITANK WEAPONS

B-14 Recoilless Rifle



Weight	about 125 lbs
Length	about 7 ft
Caliber	76mm
Maximum range	1,000 yds
Armor penetration	13-15 inches

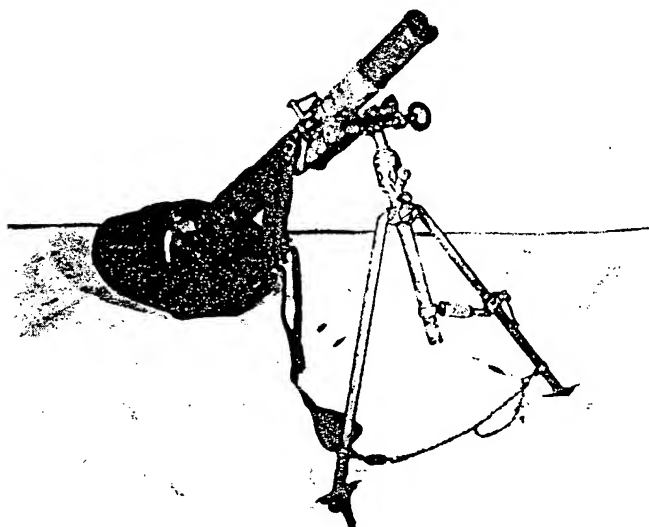
Pictured in 1968 Soviet publication. Not yet observed with troops. First Soviet recoilless gun to mount a spotting rifle. Fires round similar to that of RPG-7 grenade launcher.

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MORTARS

M-1937, M-1941, M-1943 82mm Mortar



Introduced (original version)	prior to World War II
Weight	123 lbs
Length of tube	4 ft
Maximum rate of fire	25 rpm
Maximum range	3,300 yds

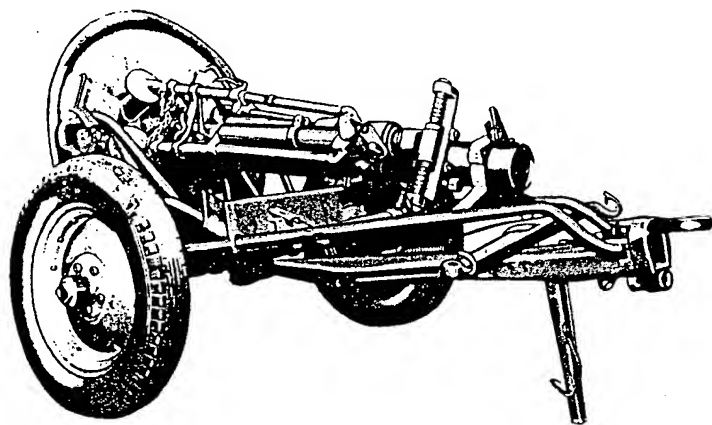
M-1937 has two short shock absorbers, M-1941 and M-1943 one longer shock absorber. Weapon can be carried by three men or one draft animal. Used by countries which have received Soviet military aid.

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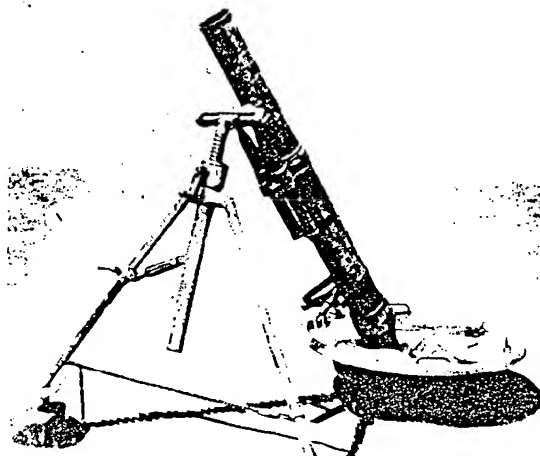
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MORTARS

M-1938, M-1943 120mm Regimental Mortar



Travel position



Firing position

Introduced	prior to World War II
Weight,	
travel position	1,100 lbs
firing position	606 lbs
Length of tube	6.2 ft
Maximum rate of fire	15 rpm
Maximum range	6,230 yds

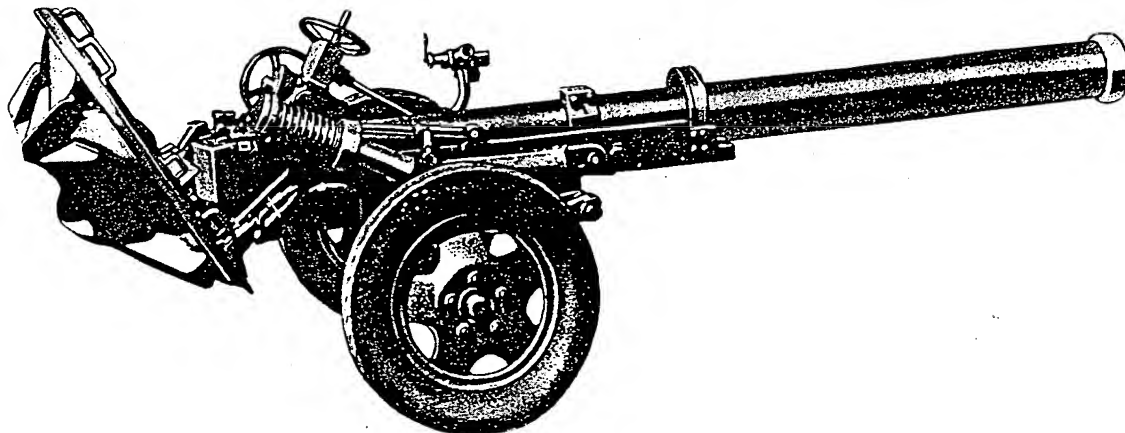
Two versions--M-1938 and M-1943--are complementary to 82mm mortars. Despite its large size, 120mm mortar is highly mobile and can be towed on two-wheel limber or broken down into three loads. Used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid. Widely used by Communist forces in Vietnam.

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MORTARS

M-1943, M-160 160mm Mortar



Introduced	World War II
Weight,	
travel position	1.61 tons
firing position	1.2 tons
Length of tube	14.9 ft
Maximum rate of fire	3 rpm
Maximum range	8,825 yds

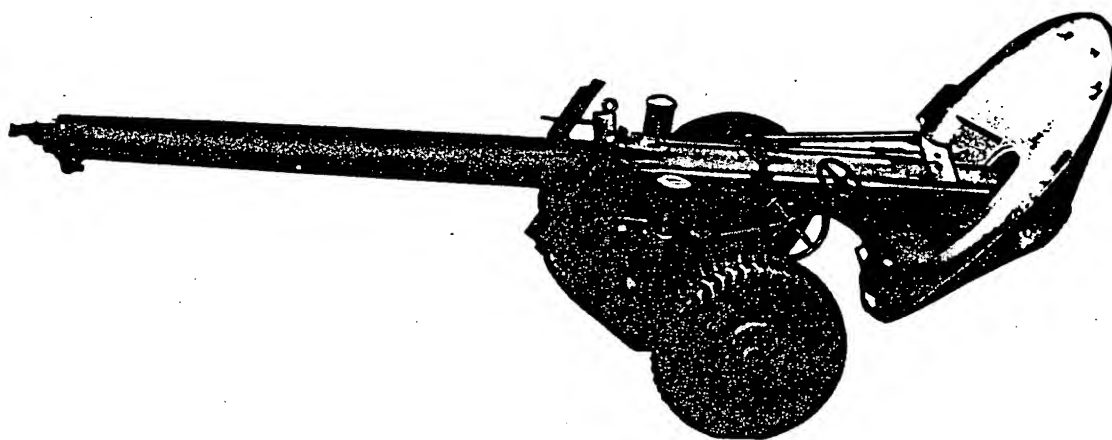
Two versions--M-1943 and M-160--can be towed on two-wheel limber. M-1943 being replaced by M-160 which has longer barrel and is breech-loaded. Both versions are used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

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MORTARS

M-240 240mm Mortar



Introduced	early 1950s
Weight,	
travel position	4.6 tons
firing position	4 tons
Length of tube	17.5 ft
Maximum rate of fire	1 rpm
Maximum range	10,600 yds

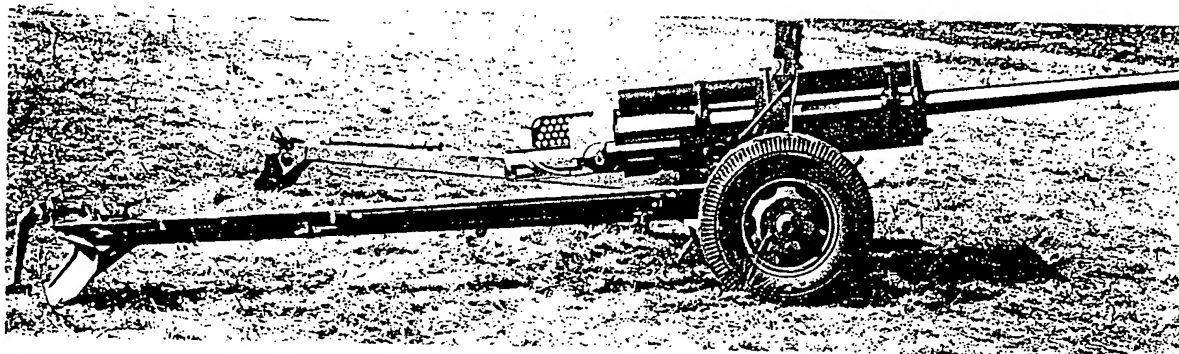
Largest standard Soviet mortar. Has large base plate. Breech-loaded. Replacing medium artillery in some support and bombardment roles. Used in some Warsaw Pact forces.

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ARTILLERY

M-1943 57mm Antitank Gun



Introduced	World War II
Weight	1.4 tons
Maximum rate of fire	25 rpm
Maximum range	9,200 yds

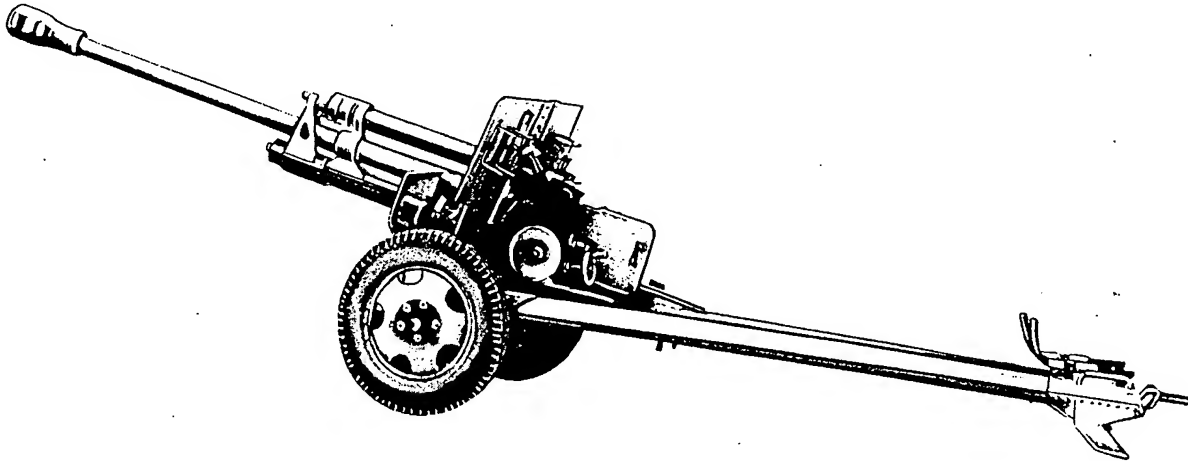
There is also a self-propelled version. M-1943 is being replaced in Soviet forces by larger caliber weapons and antitank missiles, but is still widely used in countries which have received Soviet military aid.

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ARTILLERY

M-1942 76mm Divisional Gun



Introduced	World War II
Weight	2.75 tons
Maximum rate of fire	15 rpm
Maximum range	14,550 yds

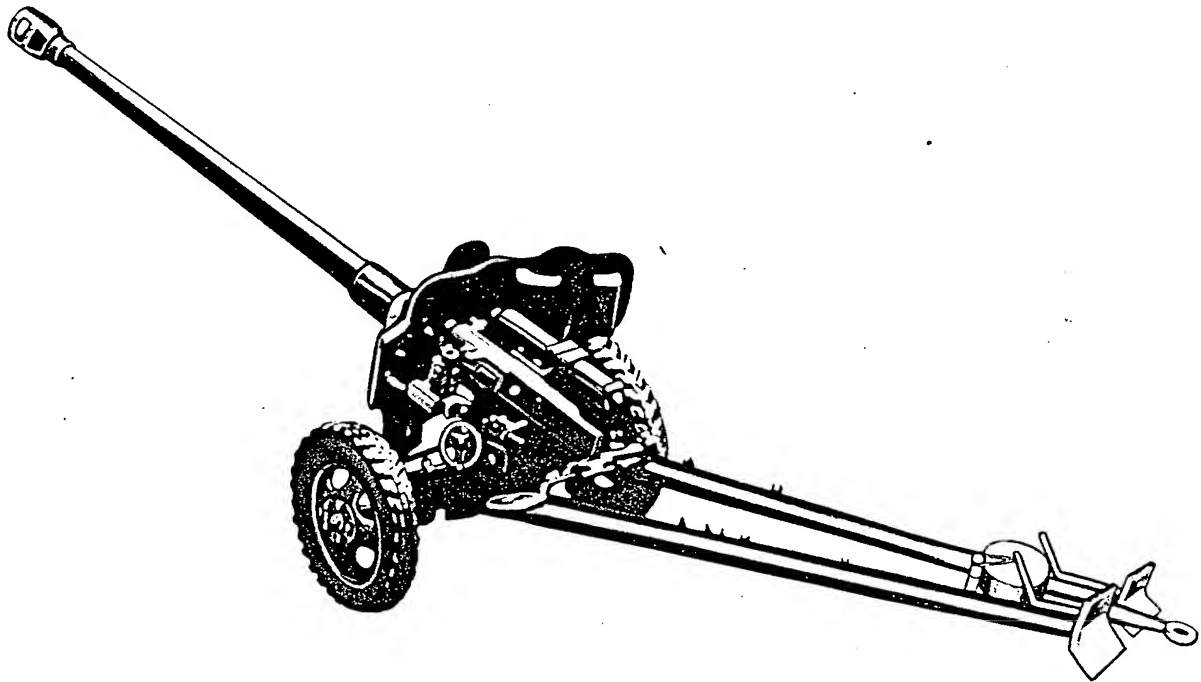
Once widely used in Soviet forces as both field artillery piece and antitank weapon. Replaced by 85mm and 100mm pieces and now used primarily for training. Still standard equipment in many countries which have received Soviet military aid.

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ARTILLERY

D-44 85mm Field Gun



Introduced	mid-1950s
Weight	1.9 tons
Maximum rate of fire	10 rpm
Maximum range	17,120 yds

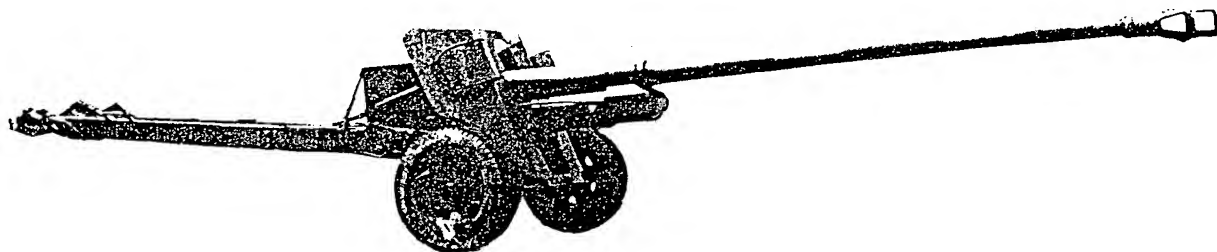
Essentially the same as T-34/85 tank gun. Used as both field artillery piece and antitank weapon. Normally towed, but self-propelled version also in use. D-44 has been replaced in Soviet forces by M-1955 100mm field gun, but is still widely used in other Warsaw Pact forces and in countries which have received Soviet military aid.

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ARTILLERY

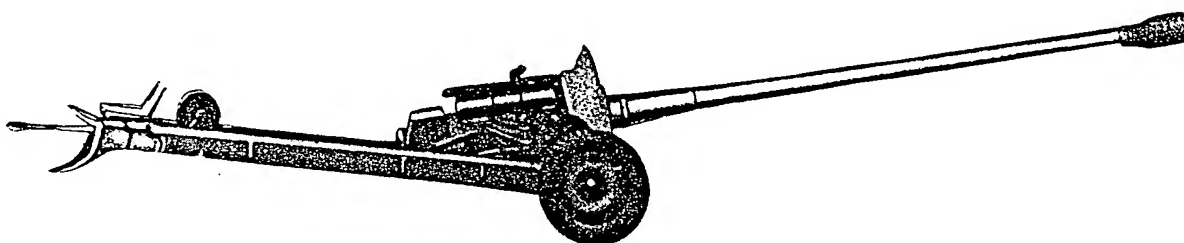
BS-3 100mm Field Gun (M-1943)



First observed	end of World War II
Weight	3.85 tons
Maximum rate of fire	8-10 rpm
Maximum range	23,000 yds

Fires same ammunition as T-54/55 tank gun. Used as both field artillery piece and antitank weapon. Largely replaced by M-1955 100mm field gun. BS-3 is distinguishable by dual tires and recoil mechanism which protrudes beyond shield below barrel. Obsolete in Soviet forces but still used in other Warsaw Pact forces and in countries which have received Soviet military aid.

M-1955 100mm Field Gun



Introduced	mid-1950s
Weight	3.7 tons
Maximum rate of fire	7 rpm
Maximum range	23,000 yds

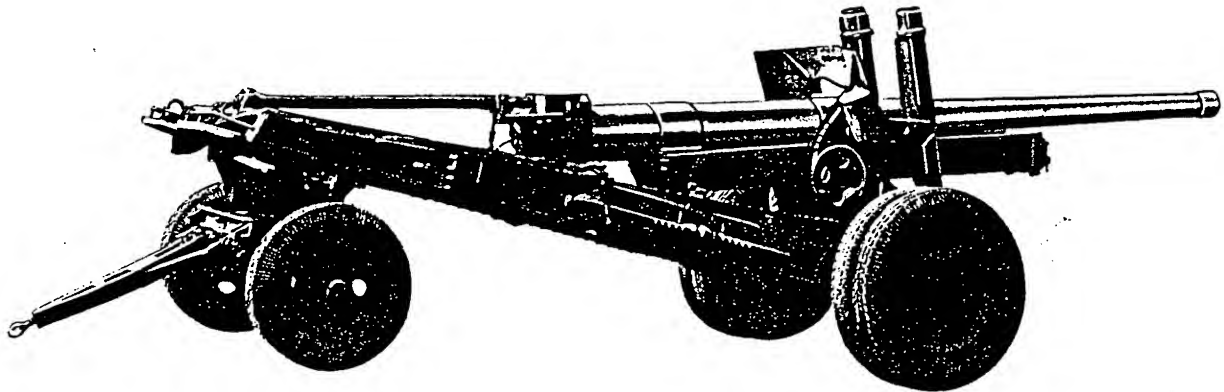
Fires same shell as BS-3 but is lighter and distinguishable from BS-3 by recoil mechanism above barrel and behind shield and by single tires. Latest version of M-1955 has longer barrel and smooth bore. Used as both field artillery piece and antitank weapon. Has largely replaced BS-3 in Soviet units and is used by other Warsaw Pact forces and countries which have received Soviet military aid.

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ARTILLERY

**A-19 122mm Corps Gun
(M-1931/1937)**



First observed	prior to World War II
Weight	8.7 tons
Maximum rate of fire	5-6 rpm
Maximum range	22,750 yds

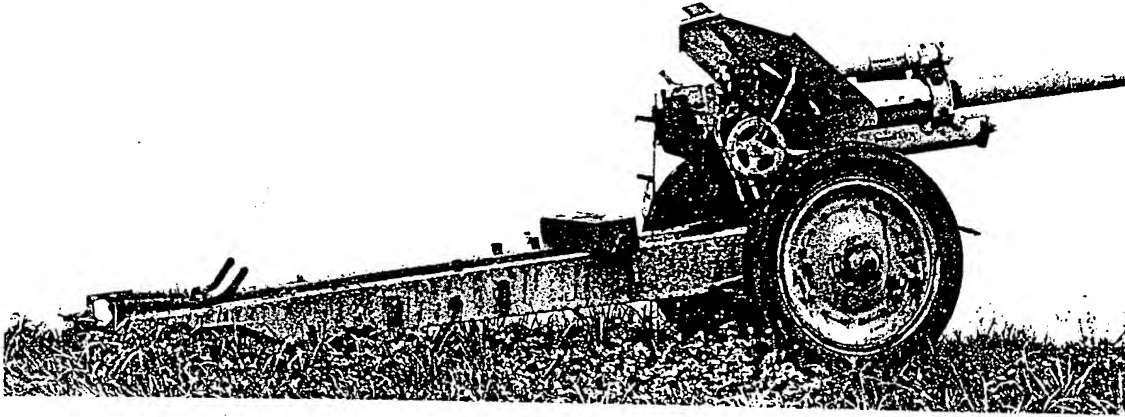
Postwar versions have dual pneumatic or sponge-rubber-filled tires in place of spoked wheels with solid rubber tires on early models. Obsolete in Soviet forces but still used in other Warsaw Pact countries.

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ARTILLERY

M-30 122mm Howitzer (M-1938)



Introduced	prior to World War II
Weight	2.7 tons
Maximum rate of fire	5-6 rpm
Maximum range	12,900 yds

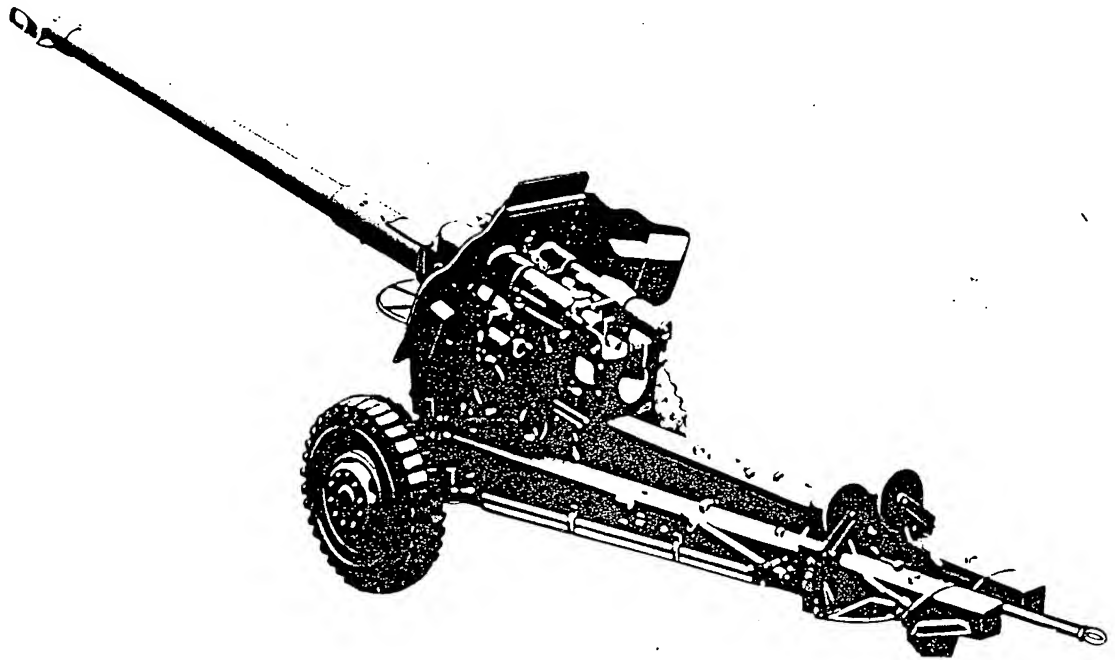
Being replaced in Soviet forces by D-30 howitzer.
Still standard equipment in other Warsaw Pact forces
and countries which have received Soviet military aid.

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ARTILLERY

D-74 122mm Field Gun



First observed	1955
Weight	7.25 tons
Maximum rate of fire	6 rpm
Maximum range	24,000 yds

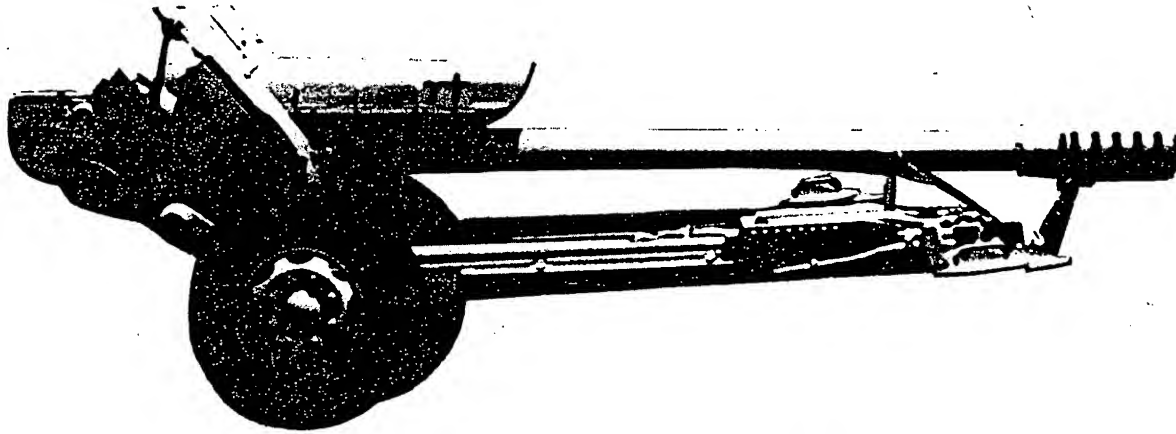
This light piece has wheels mounted near end of trails and double recoil cylinders mounted above barrel behind shield. Used by Soviet and some other Warsaw Pact forces and by Communist forces in Southeast Asia.

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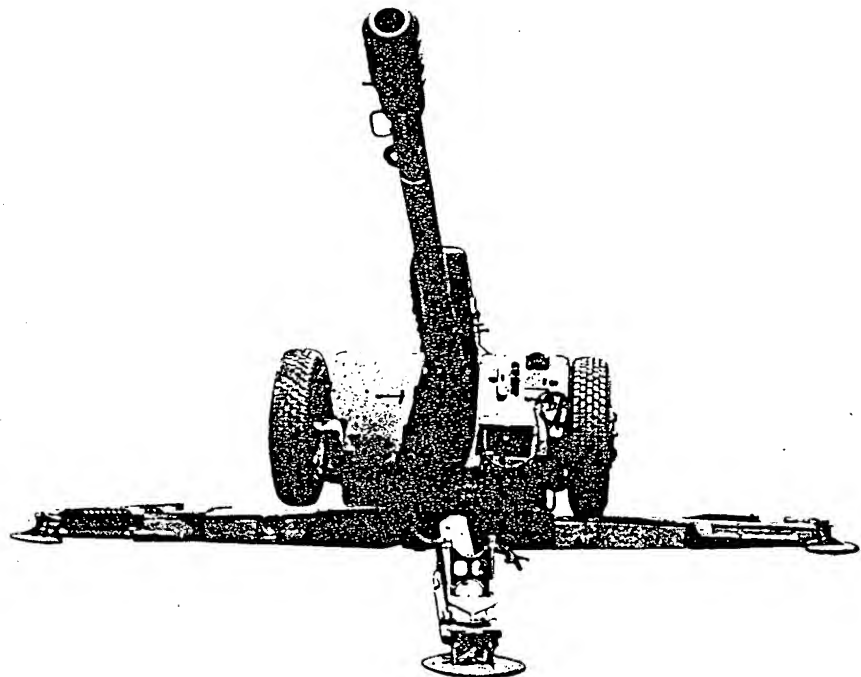
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ARTILLERY

D-30 122mm Howitzer (M-1963)



Travel position



Firing position

First observed	1963
Weight	3.5 tons
Maximum rate of fire	8 rpm
Maximum range	16,740 yds

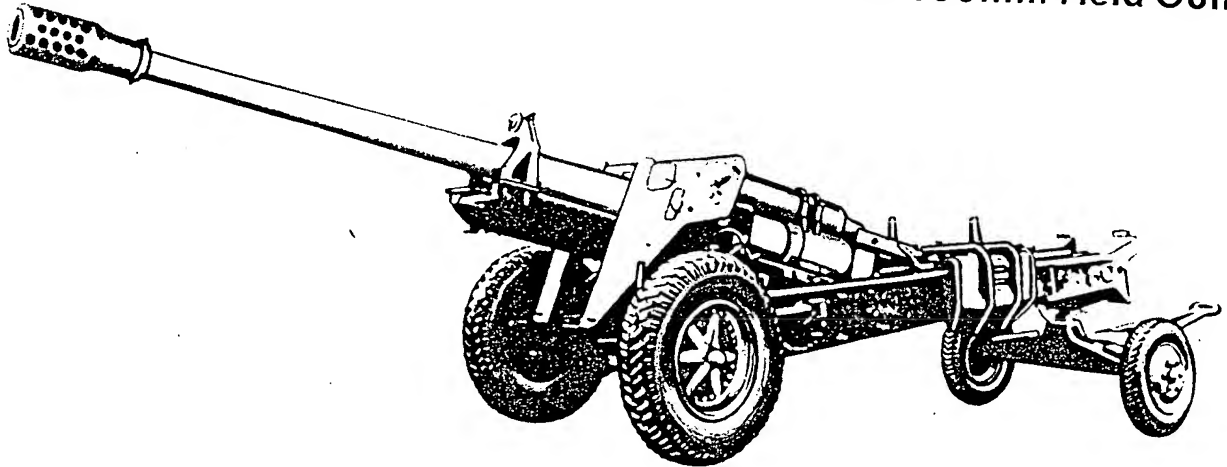
Rests on three trails and central jack when in firing position, gaining stability. Towed by barrel with trails folded. New shell gives direct-fire antitank capability. Replacing M-30 howitzer as standard equipment in Soviet forces. Has also been seen with Egyptian units.

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ARTILLERY

M-46 130mm Field Gun



First observed	1954
Weight	9.4 tons
Maximum rate of fire	7-8 rpm
Maximum range	29,500 yds

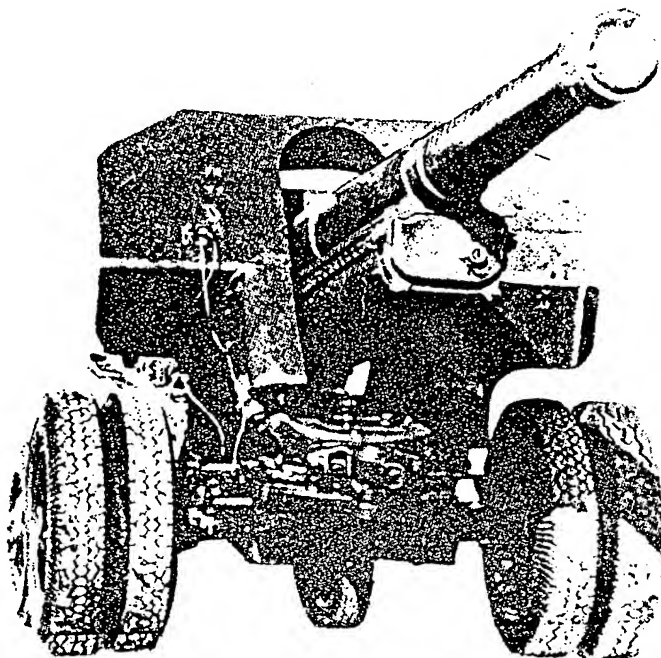
Based on naval and coastal guns of same caliber. Features collar around barrel forward of shield and detachable spades on trails. Used by Soviet and other Warsaw Pact forces and in Middle East and India.

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ARTILLERY

M-10 152mm Howitzer (M-1938)



Introduced	prior to World War II
Weight	5 tons
Maximum rate of fire	4 rpm
Maximum range	13,560 yds

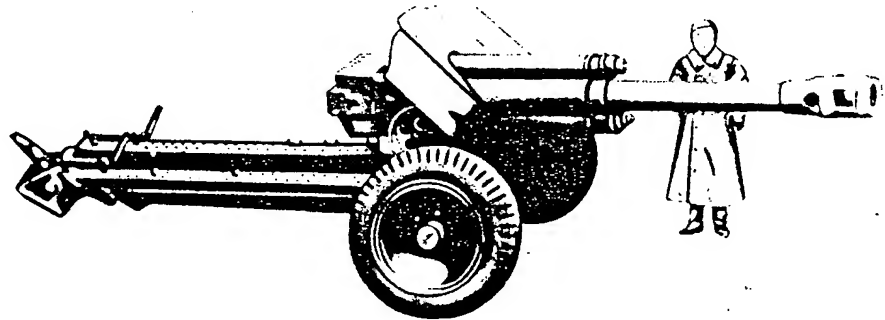
Resembles M-1931/37 122mm corps gun but has shield.
Obsolete in Soviet forces but still used in other Warsaw
Pact countries--extensively in Rumania.

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ARTILLERY

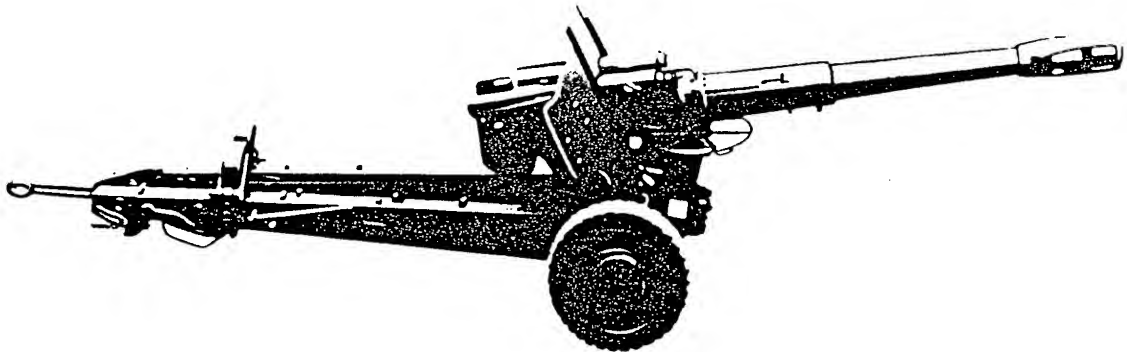
M-1943 152mm Howitzer



Introduced	World War II
Weight	4 tons
Maximum rate of fire	4 rpm
Maximum range	13,560 yds

Essentially the tube of the M-10 152mm howitzer mounted on the carriage of the M-1938 122mm howitzer. Has firepower of 152mm tube but is more mobile because of lighter carriage. Now largely replaced in Soviet units by M-1955, but still used in other Warsaw Pact forces and in countries which have received Soviet military aid.

D-20 152mm Howitzer



First observed	1955
Weight	6.5 tons
Maximum rate of fire	4 rpm
Maximum range	18,000 yds

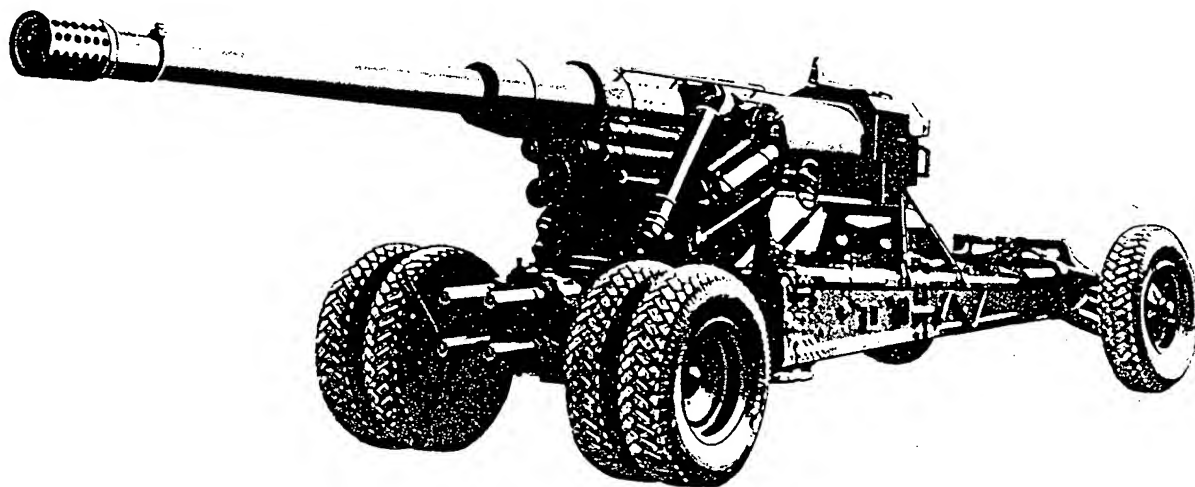
Designed as replacement for M-1937 152mm howitzer. D-20 is companion piece to D-74 122mm howitzer and distinguishable from it by shorter, thicker barrel and larger muzzle brake. Used by USSR and several other Warsaw Pact countries.

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ARTILLERY

M-1955 203mm Howitzer



Introduced	probably mid-1950s
Weight	22.5 tons
Maximum rate of fire	3 rounds in 4 minutes
Maximum range	32,000 yds

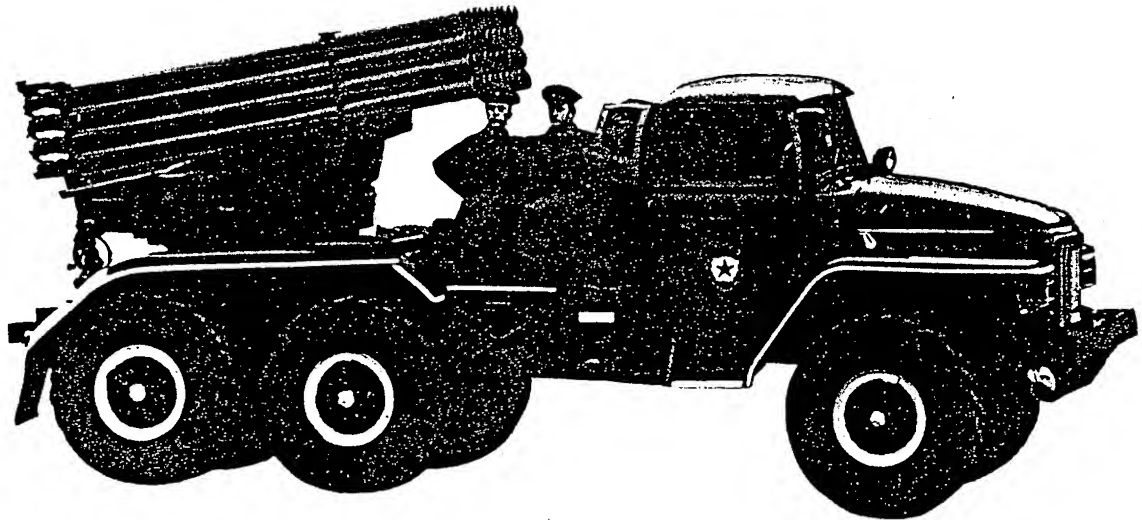
Largest of Soviet towed artillery pieces since World War II. Probably can fire atomic round in addition to conventional. Has dual-mounted wheels but no shield, and is towed out of battery. Shown in Soviet parades but not observed with operational units.

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UNGUIDED ROCKETS

M-1964 122mm Rocket Launcher



First observed	1964
Vehicle	Ural-375 truck
Weight (with full rocket load)	3.8 tons
Cruising range	252 miles
Rocket load	40
Range of rocket,	
maximum	18,600 yds
minimum	6,600 yds
Propellant	solid

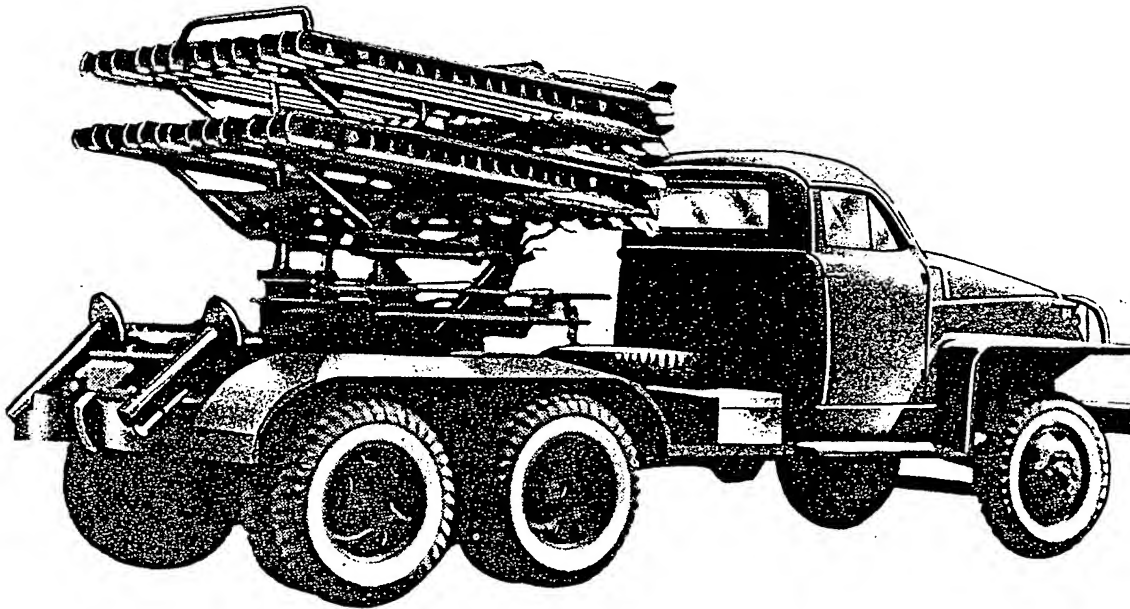
Air transportable. Smallest caliber postwar Soviet rocket launcher. First rocket to be mounted on Ural-375 truck. Four banks of ten launchers. Absence of blast shields on cab indicates launcher fires either to right or left. Probably will replace BM-14 and BM-24 launchers.

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UNGUIDED ROCKETS

BM-13 132mm Rocket Launcher



Introduced	World War II
Vehicle	ZIL-151 truck
Weight (with full rocket load)	7.8 tons
Cruising range	373 miles
Rocket load	16
Range of rocket,	
maximum	9,850 yds
minimum	3,280 yds
Propellant	solid

Standard field rocket through mid-1950s. Since replaced by BM-14. Still used as training weapon by Soviets and standard equipment in Communist China, Cuba, Egypt, North Korea, and other countries which have received Soviet military aid.

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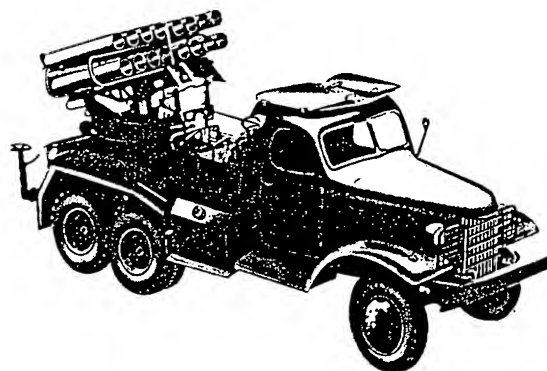
UNGUIDED ROCKETS

140mm Rocket Launchers

BM-14-16

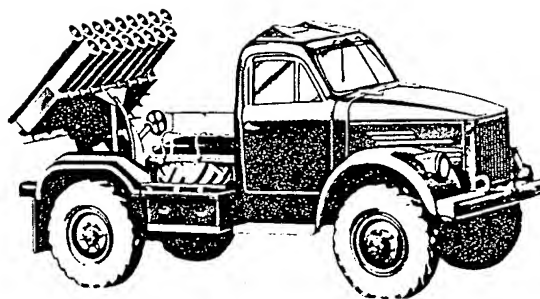
First observed 1954
Vehicle ZIL-151 truck
Weight (with full
rocket load) 8.7 tons
Cruising range 373 miles
Rocket load 16

Mounted in two banks of eight launchers. BM-14 is replacement for 16-round BM-13. Used in Warsaw Pact forces, Communist China, and Indonesia.



First observed 1959
Vehicle GAS-63 truck
Weight (with full
rocket load) 4.7 tons
Cruising range 404 miles
Rocket load 17

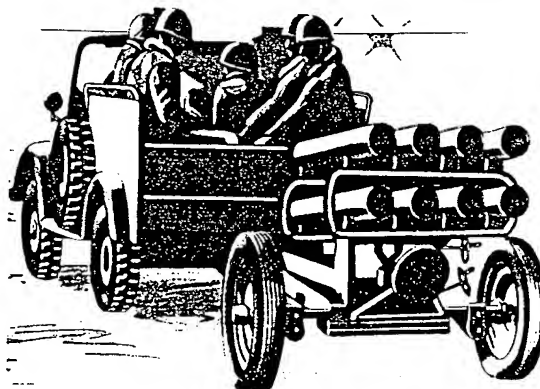
Mounted on much lighter truck than BM-14-16. Lacks stabilizing jacks of heavier 140mm systems. Used by Soviet and Polish forces.



BM-14-17

First observed 1962
Weight (with full
rocket load) 1,000 lbs
Rocket load 8

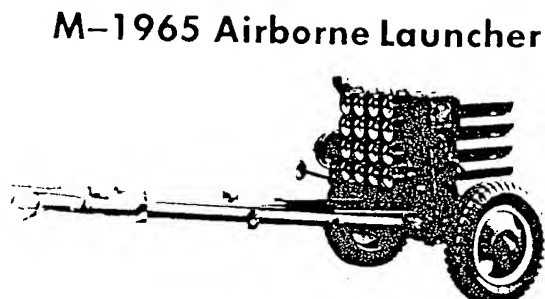
One of two towed rocket launchers used by Soviet and other Warsaw Pact forces. Well suited for airborne operations because of light weight.



Airborne Launcher

Introduced 1964
Weight (with full
rocket load) 2,400 lbs
Rocket load 16

Sixteen tubes arranged in square. Well suited for airborne operations.



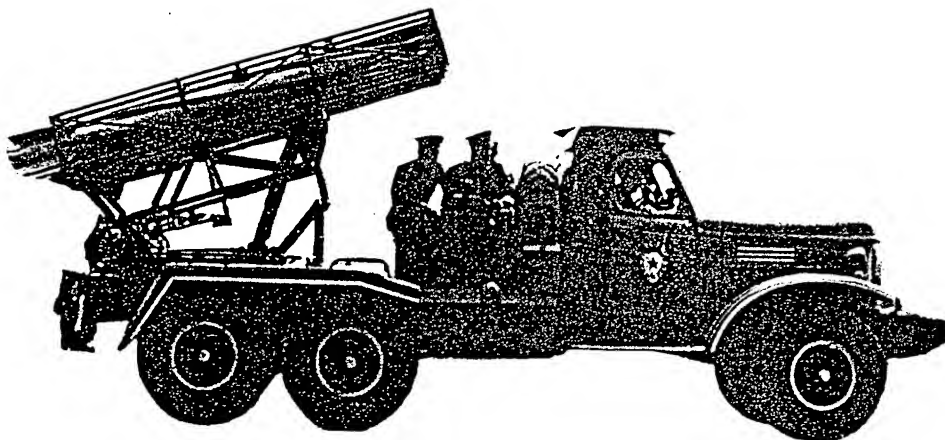
M-1965 Airborne Launcher

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UNGUIDED ROCKETS

BMD-20 200mm Rocket Launcher



Vehicle	ZIL-157 truck
Weight (with full rocket load)	9.1 tons
Cruising range	373 miles
Rocket load	4
Range of rocket, maximum	20,200 yds
minimum	13,900 yds
Propellant	solid

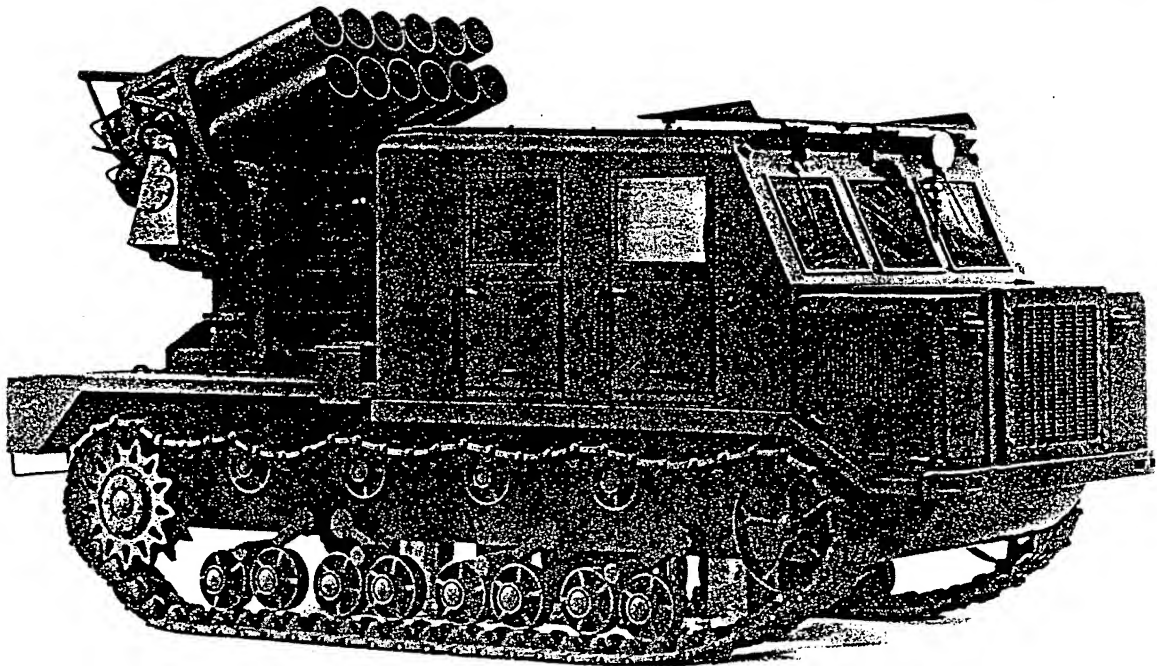
First seen in 1954 on ZIL-151 truck, later on ZIL-157. Mounted in single bank of four open-frame launchers. Has been seen in Cuba and may be in use in Warsaw Pact forces.

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UNGUIDED ROCKETS

BM-24 240mm Rocket Launcher



Photograph of model

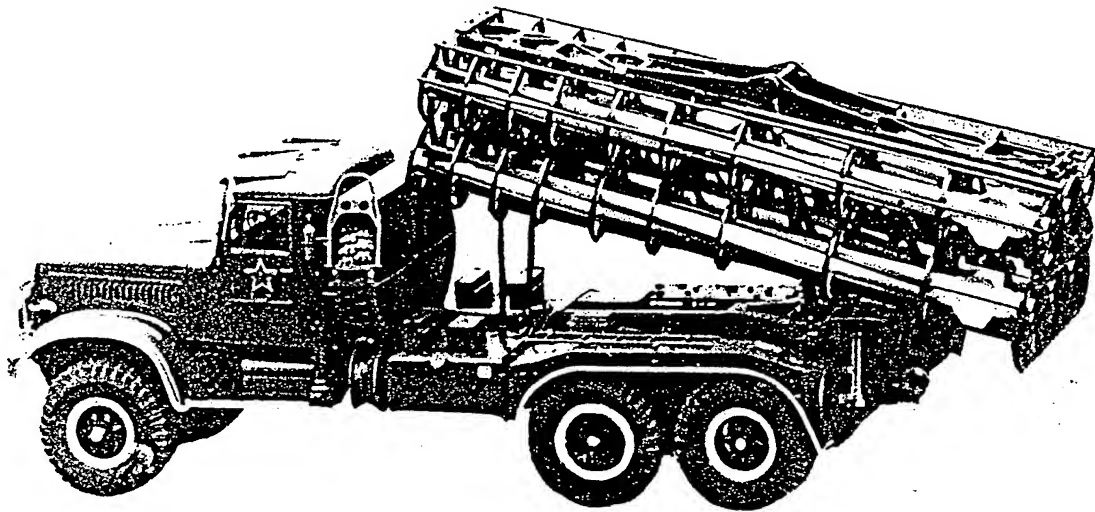
Introduced	mid-1950s
Vehicle	AT-S medium tracked artillery tractor
Weight (with full rocket load)	16 tons
Cruising range	236 miles
Rocket load	12
Range of rocket,	
maximum	8,000 yds
minimum	4,820 yds
Propellant	solid

Despite its high silhouette, this vehicle has excellent mobility and can carry entire firing crew of six.

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UNGUIDED ROCKETS

BM-25 250mm Rocket Launcher



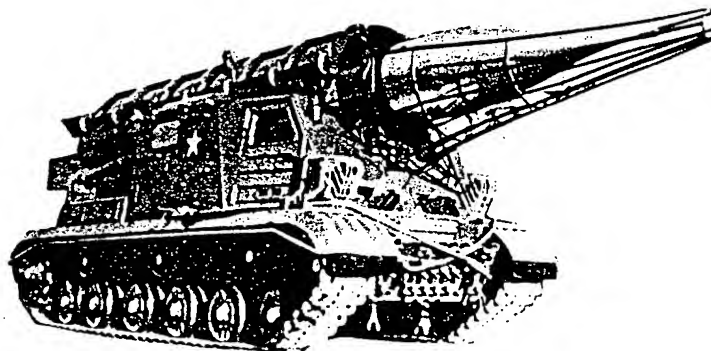
First observed	1957
Vehicle	KRAZ-214 general purpose truck
Weight (with full rocket load)	21.1 tons
Cruising range	329 miles
Rocket load	6
Range of rocket,	
maximum	61,000 yds
minimum	19,700 yds
Propellant	liquid

Six rockets in two banks of three open-frame launchers. Warhead slightly more effective than 8-inch artillery round. Largest multiple rocket launcher in Soviet army.

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UNGUIDED ROCKETS

FROG-1



First observed	1957
Launcher weight (with rocket)	40 tons
Launcher cruising range	112 miles
Rocket weight	about 11,000 lbs
Warhead weight, nuclear	2,866 lbs
HE, CW	2,600 lbs
Maximum range, nuclear	13.5 nm
HE, CW	17.5 nm
Propellant	solid

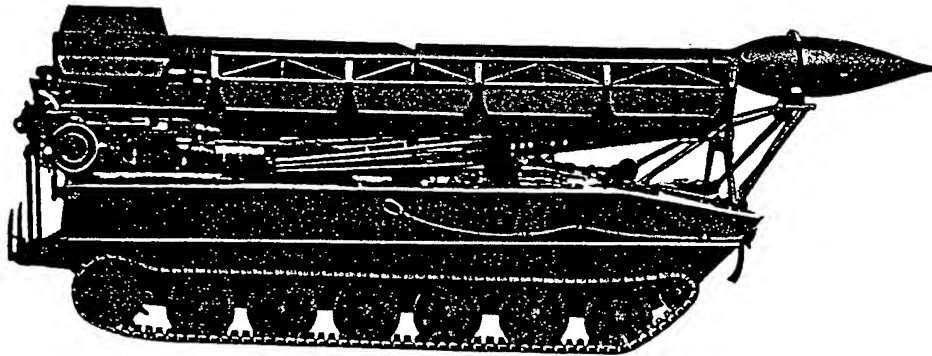
Believed to be obsolete. Mounted on modified JS heavy tank chassis. Used in some Warsaw Pact countries.

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UNGUIDED ROCKETS

FROG-2



Launcher weight (with rocket)	15.7 tons
Launcher cruising range	155 miles
Rocket weight	3,858 lbs
Warhead weight	1,220 lbs
Maximum range	9.8 nm
Propellant	solid

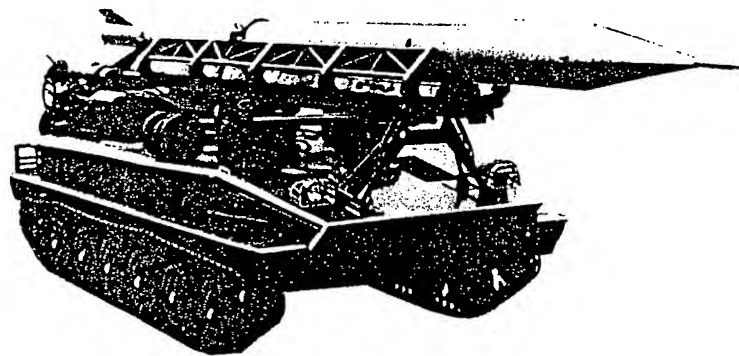
Not operational. Seen only in 1957 Moscow parade.
Probably served only for research and development.
Mounted on chassis of PT-76 light amphibious tank, but
not itself amphibious.

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UNGUIDED ROCKETS

FROG-3, 4, 5



	FROG-3	FROG-4	FROG-5
First observed	1960	1960	1964
Launcher weight (with rocket)	15.7 tons	15.7 tons	15.7 tons
Launcher cruising range	155 miles	155 miles	155 miles
Rocket weight	4,720 lbs	4,220 lbs	4,700 lbs
Warhead weight	1,090 lbs	820 lbs	900 lbs
Warhead diameter	21.1 in	17.0 in	15.7 in
Maximum range	17.4 nm	29 nm	29 nm
Propellant	solid	solid	solid

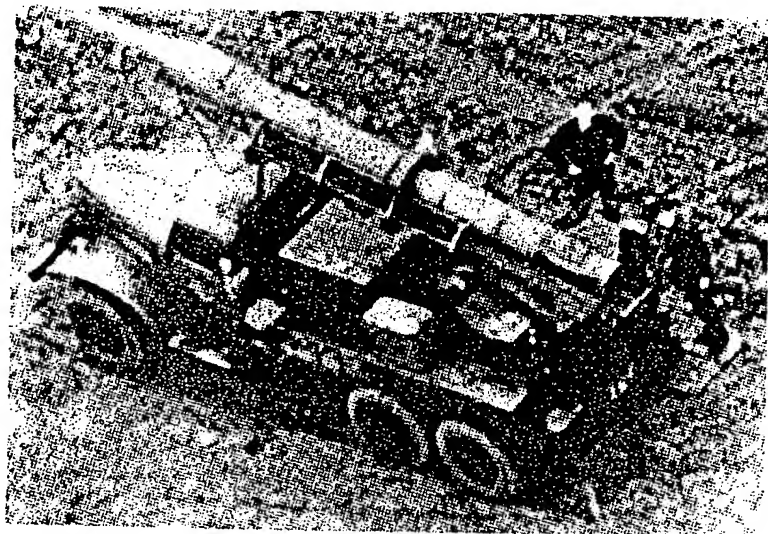
All are mounted on chassis of PT-76 light amphibious tank, but none is amphibious. FROG-3 warhead is nuclear. FROG-4 carries HE warhead. FROG-5 is probably a training version with concrete-filled warhead. FROGs have been seen with Soviet and other Warsaw Pact forces and in Cuba.

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UNGUIDED ROCKETS

FROG-6



First observed	1965
Launcher weight	
(with rocket)	8.7 tons
Rocket weight	2,000-2,500 lbs

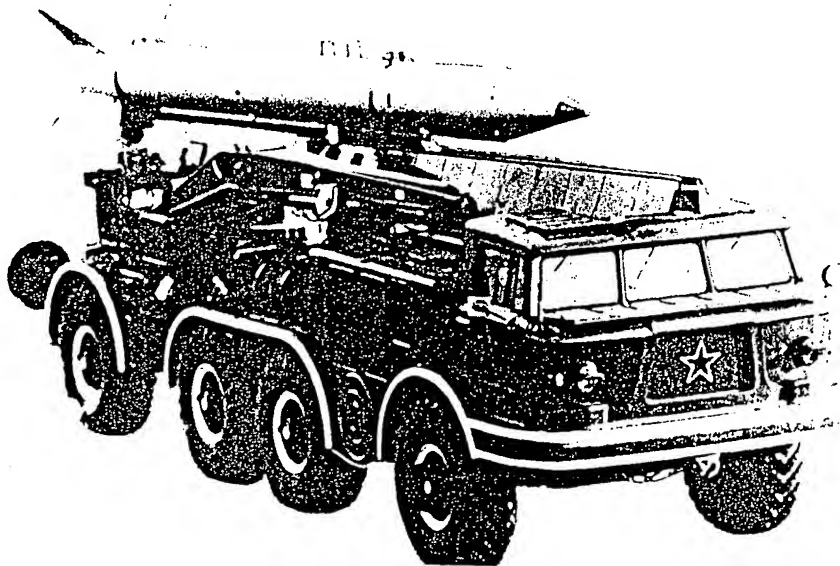
Mounted on ZIL-157 truck. First Soviet departure from tracked launchers for FROGs. FROG-6 is believed to be a nonfiring training system. Seen with Soviet and East German forces.

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UNGUIDED ROCKETS

FROG-7



First observed	late 1965
Launcher weight (with rocket)	about 13 tons
Launcher cruising range	311 miles
Rocket weight	5,000-6,000 lbs
Warhead weight,	
HE	1,300 lbs
nuclear	610 lbs
chemical	400 lbs
Maximum range	30-45 nm
Propellant	solid

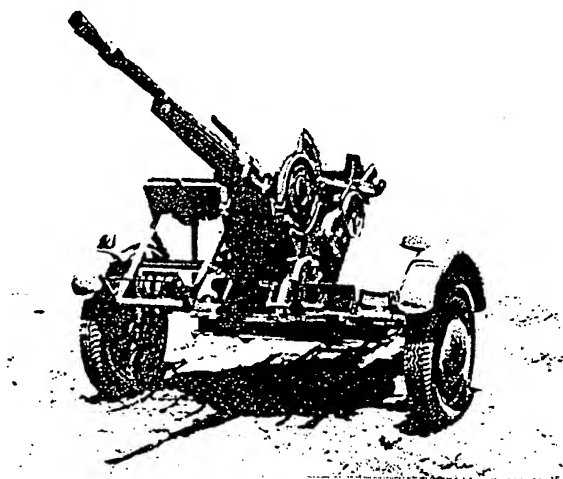
Eight-wheel launcher provides greater mobility than tracked launcher. FROG-7 distinguishable from earlier FROGs by single motor section as opposed to two in tandem. FROG-7 is gradually replacing older FROGs in first-line Soviet divisions and has been seen with Czechoslovak, East German, and Polish forces.

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ANTIAIRCRAFT WEAPONS

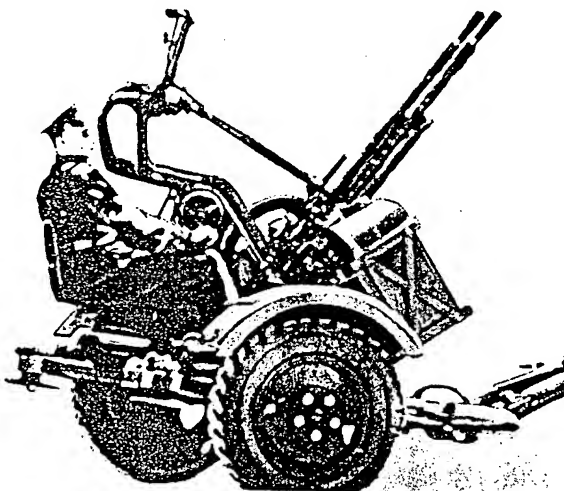
ZPU-1 14.5mm Antiaircraft Heavy Machine Gun



Introduced	mid-1950s
Maximum rate of fire	600 rpm
Maximum effec- tive range,	
vertical	4,600 ft
horizontal	2,200 yds

Single gun mounted on light two-wheel towed carriage. Also effective against light armor and other ground targets. Apparently no longer used in Soviet forces. Seen in countries which have received Soviet military aid. Widely used in North Vietnam.

ZPU-2 Antiaircraft Heavy Machine Gun



Introduced	mid-1950s
Maximum rate of fire	600 rpm per barrel
Maximum effec- tive range,	
vertical	4,600 ft
horizontal	2,200 yds

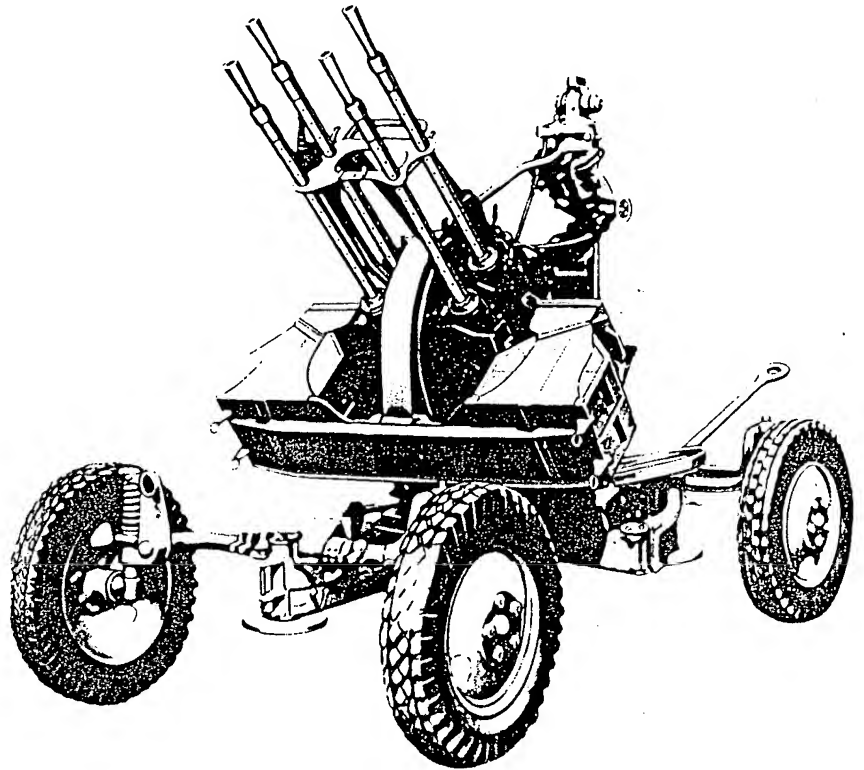
Twin-mounted version of ZPU-1 on two-wheel towed carriage. This mount also seen on BTR-40 and BTR-152 armored personnel carrier chassis. ZPU-2 is used in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

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ANTIAIRCRAFT WEAPONS

ZPU-4 Antiaircraft Heavy Machine Gun



Introduced	mid-1950s
Maximum rate of fire	600 rpm per barrel
Maximum effective range,	
vertical	4,600 ft
horizontal	2,200 yds

Quad-mounted version of ZPU-1 on four-wheel towed carriage. Used in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

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ANTIAIRCRAFT WEAPONS

ZU-23 23mm Antiaircraft Heavy Machine Gun



Introduced	early 1960s
Maximum rate of fire	800-1,000 rpm
Maximum effective range,	
vertical	6,600 ft
horizontal	2,188 yds

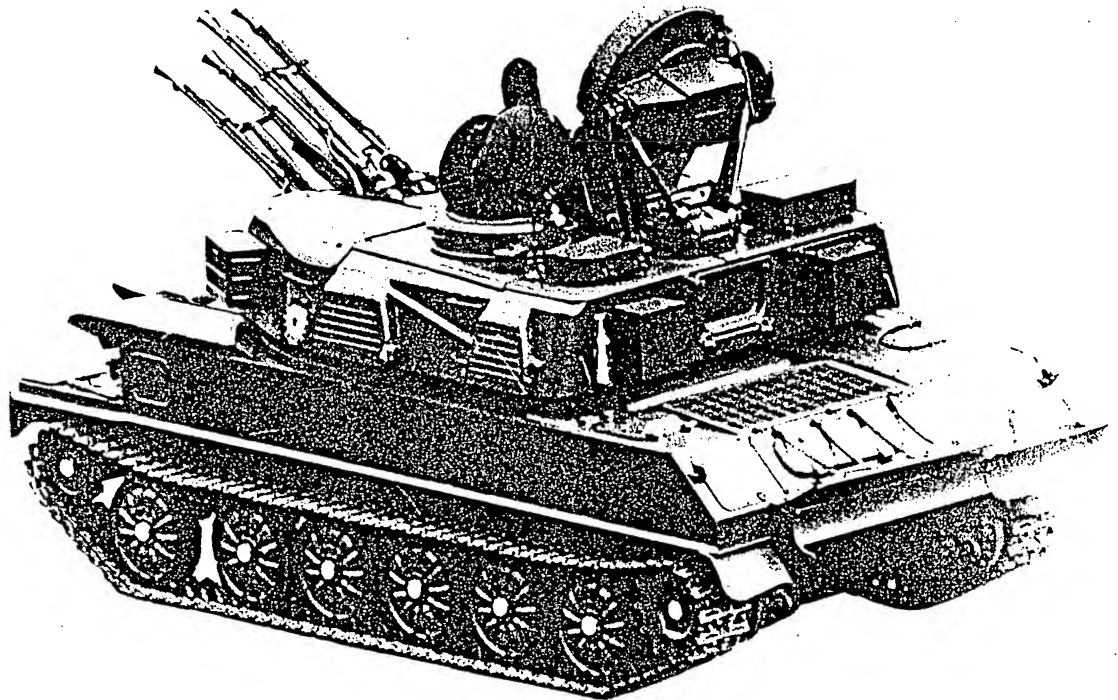
Twin-barrel machine cannon mounted on light two-wheel carriage similar to that of ZPU-2. Cylindrical muzzle brakes distinguishable from conical type on ZPU-2. ZU-23 also effective against light armor and other ground targets. Will probably replace ZPU series of heavy machine guns.

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ANTIAIRCRAFT WEAPONS

ZSU-23-4 23mm Self-Propelled Antiaircraft Gun



First observed	1965
Maximum rate of fire	1,200-1,400 rpm
Maximum effective range,	
vertical	6,600 ft
horizontal	2,188 yds
Maximum vehicle speed	25 mph
Cruising range	150 miles
Weight	15.4 tons
Crew	4

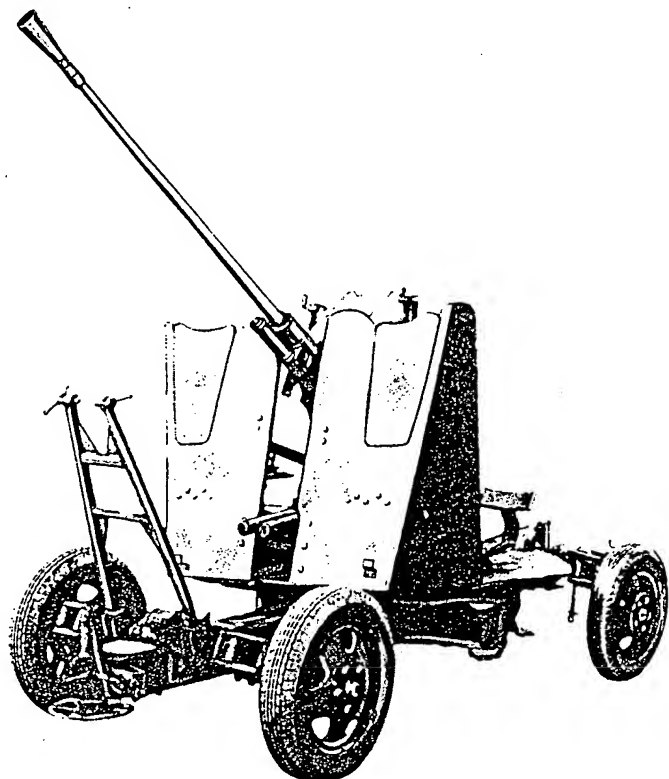
Four liquid-cooled guns in light armored turret mounted with fire-control radar on chassis similar to that of PT-76 light amphibious tank. Not amphibious. Designed to provide ground forces mobile protection against low-flying aircraft. Also effective against light armor and other ground targets. Has been seen with Soviet and Polish forces.

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ANTIAIRCRAFT WEAPONS

M-1939 37mm Antiaircraft Gun



First observed	World War II
Maximum rate of fire	160-180 rpm
Maximum effective range (vertical)	8,200 ft

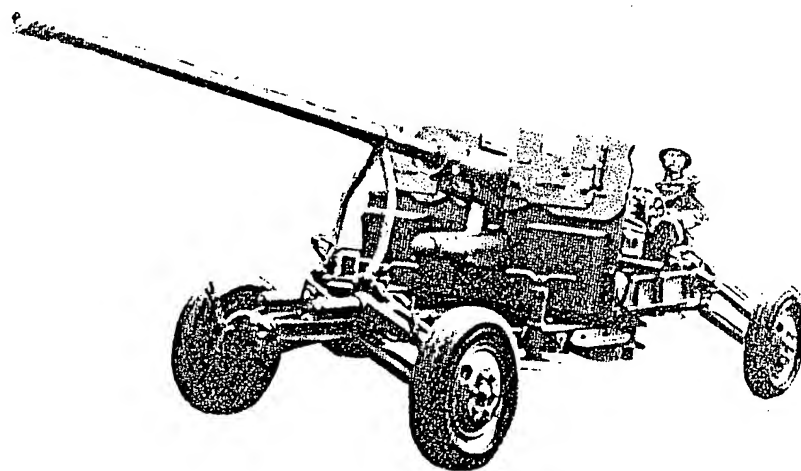
Mounted on four-wheel towed carriage. Not suitable for use against ground targets. Replaced in Soviet forces by S-60 but still used in other Warsaw Pact countries, Cuba, Middle East, and Southeast Asia.

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ANTIAIRCRAFT WEAPONS

S-60 57mm Antiaircraft Gun



First observed	1950
Maximum rate of fire	105-120 rpm
Maximum effective range,	
vertical	19,700 ft
horizontal	13,000 yds

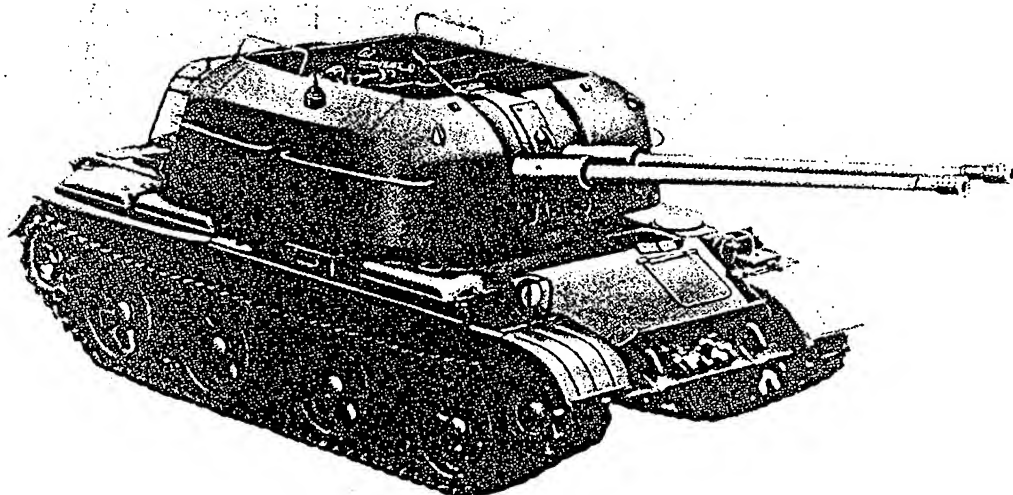
Mounted on four-wheel towed carriage. Also effective against light armor and other ground targets. Has replaced M-1939 in Soviet forces. Used in countries which have received Soviet military aid.

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ANTIAIRCRAFT WEAPONS

ZSU-57-2 57mm Self-Propelled Antiaircraft Gun



First observed	1957
Maximum rate of fire	210-240 rpm per barrel
Maximum effective range,	
vertical	19,700 ft
horizontal	13,000 yds
Vehicle speed	31 mph
Cruising range	250 miles
Weight	31 tons
Crew	6

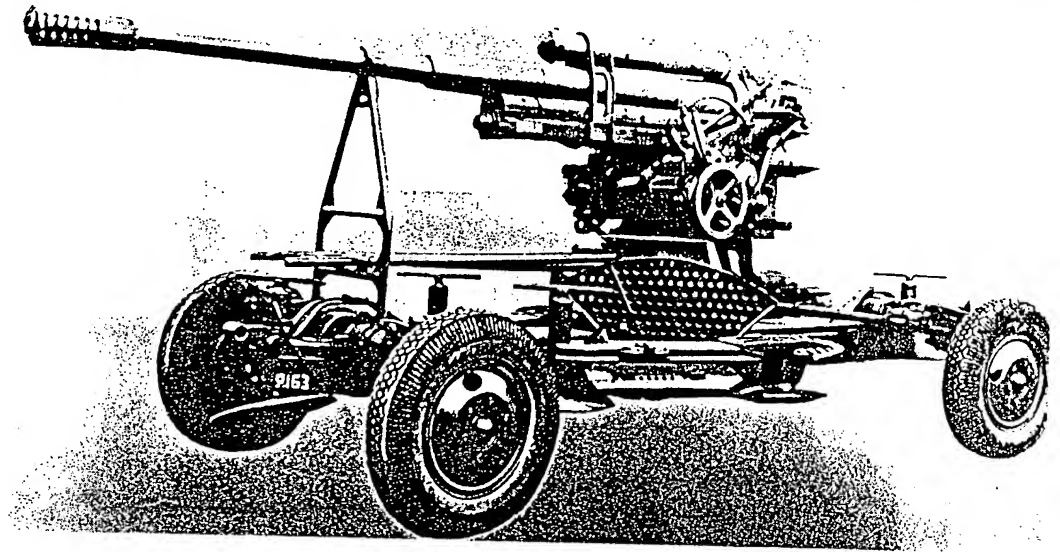
Two S-68 guns in open turret mounted on modified T-54 tank chassis. Optical sighting and fire control. Designed to provide ground forces mobile protection against aircraft. Also effective against light armor and other ground targets. Has been seen with Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

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ANTIAIRCRAFT WEAPONS

KS-12 85mm Antiaircraft Gun



Introduced	prior to
	World War II
Maximum rate of fire	15-20 rpm
Maximum effective range,	
vertical	27,500 ft
horizontal	17,000 yds

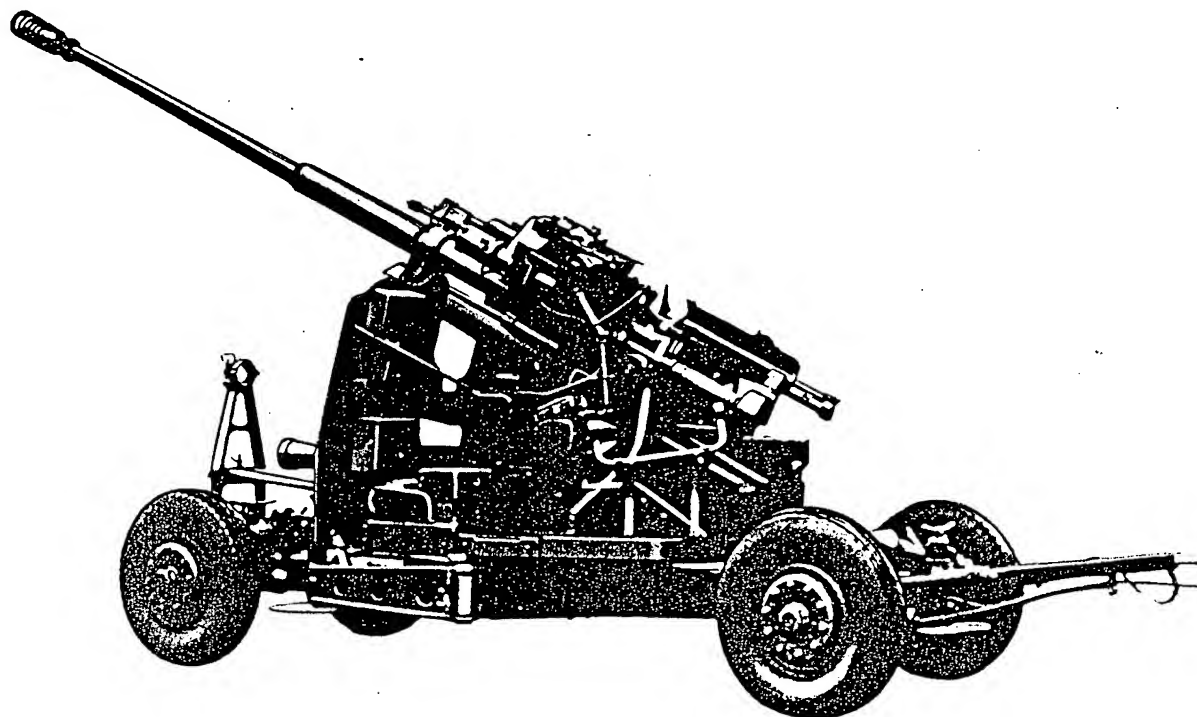
Mounted on four-wheel towed carriage. Uses on-carriage optical site or off-carriage radar fire control. Essentially same gun as KS-18 but with longer tube. Both are also effective against light armor and other ground targets. Being replaced by KS-19, but still used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

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ANTIAIRCRAFT WEAPONS

KS-19 100mm Antiaircraft Gun



First observed	1949
Maximum rate of fire	15 rpm
Maximum effective range,	
vertical	39,000 ft
horizontal	23,000 yds

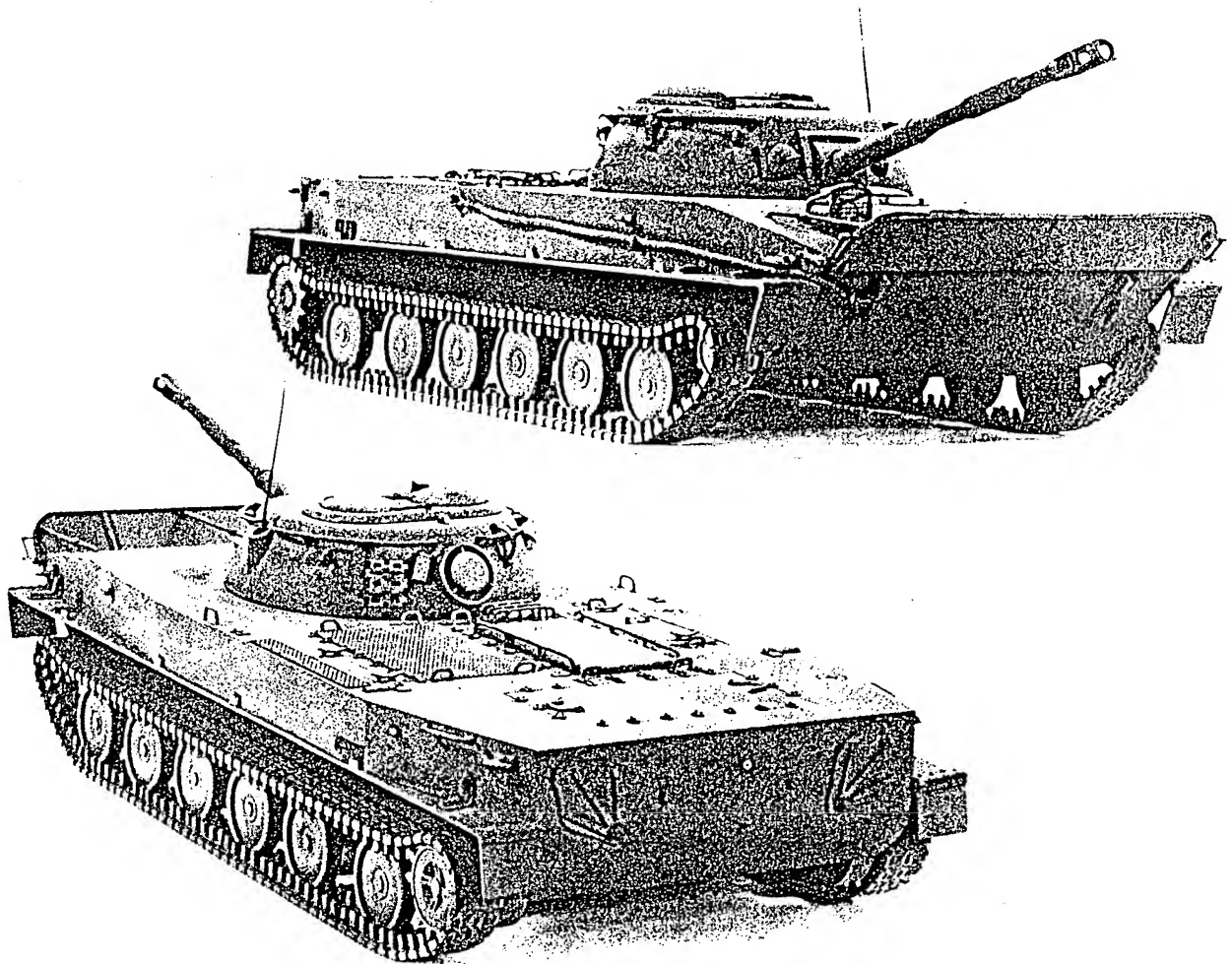
Uses off-carriage fire control and director against aircraft. Designed to replace KS-12 and KS-18, and itself being replaced by SA-2 surface-to-air missile. Also effective against light armor and other ground targets.

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TANKS

PT-76 Light Amphibious Tank



Introduced	1952
Main armament	76mm tank gun
Weight	15.4 tons
Speed, land	27 mph
water	6.3 mph
Cruising range	150 miles
Crew	3

Amphibious and lightly armored. Undergunned by present Soviet standards. Standard reconnaissance tank in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid. Used by Communist forces in Laos and South Vietnam.

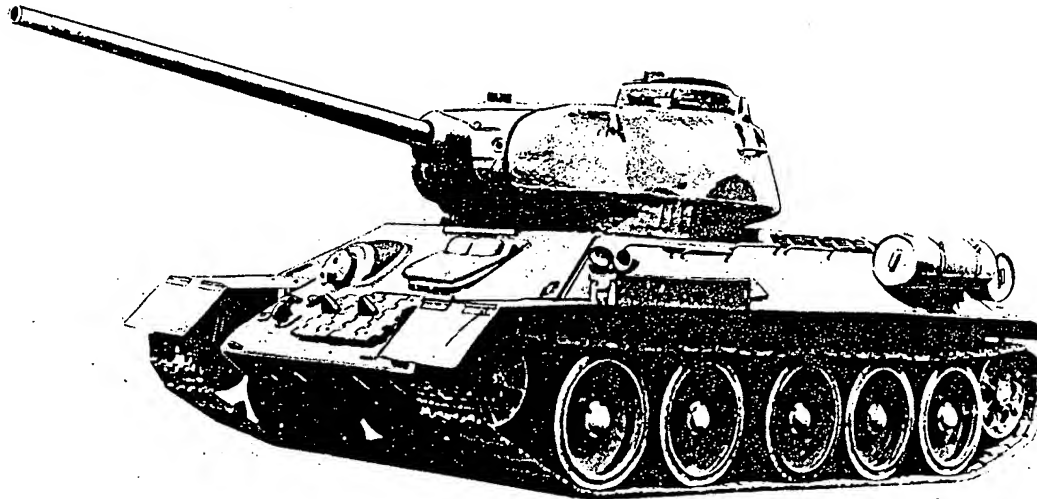
Chassis forms basis for ASU-85 airborne assault gun and FROG-2, 3, 4, and 5 rocket launchers.

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TANKS

T-34/85 Medium Tank



First observed	1944
Main armament	M-1944 85mm tank gun
Weight	35.3 tons
Speed	35 mph
Cruising range	186 miles
Crew	4

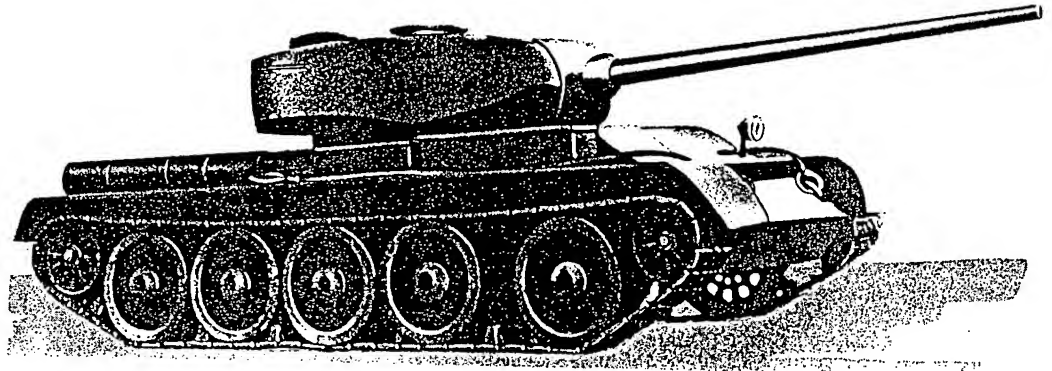
Replaced in first-line Soviet units by T-54/55 series, but still used in Soviet reserves and extensively in other Warsaw Pact forces and in countries which have received Soviet military aid.

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TANKS

T-44 Medium Tank



Introduced		mid-1940s
Main armament	M-1944 85mm	tank gun
Weight		35.2 tons
Speed		35 mph
Cruising range		186 miles
Crew		4

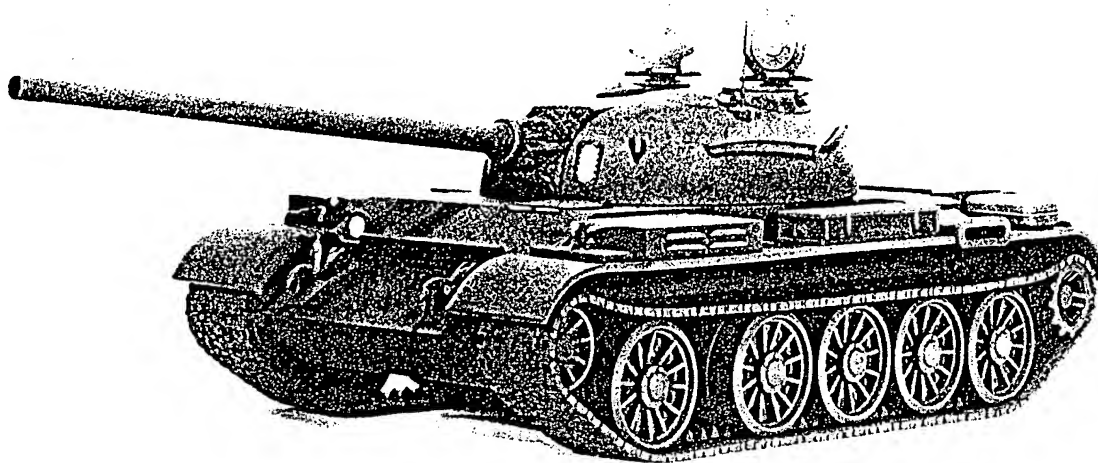
Interim system between T-34/85 and later T-54, produced in only limited numbers. Hull similar to T-54 and turret similar to T-34/85. T-44 saw some use with Soviet forces in World War II and during Hungarian Revolution.

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TANKS

T-54 Medium Tank



First observed	1949
Main armament	100mm tank gun
Weight	40 tons
Speed	30 mph
Cruising range	216 miles
Crew	4

Developed from T-44. Distinguishable by hemispherical turret, low silhouette, and 100mm gun. Standard Soviet medium tank until late 1950s, now largely replaced in first-line units by T-55 and T-62. Used by other Warsaw Pact forces and in countries which have received Soviet military aid. A Chinese-produced version, T-59, is exported to Pakistan.

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TANKS

T-55 Medium Tank



Photograph of model

Introduced	possibly 1959
Main armament	100mm tank gun
Weight	40 tons
Speed	30 mph
Cruising range	216 miles
Crew	4

Has largely replaced T-54 in first-line Soviet units. Distinguishable from T-54 by lack of AA machine gun, flush hatch replacing loader's cupola, and infrared devices mounted on turret and hull front. Used in Warsaw Pact countries, Middle East, and India.

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TANKS

T-62 Medium Tank



Photograph of model

First observed	1961
Main armament	115mm smoothbore gun
Weight	40.2 tons
Speed	30 mph
Cruising range	216 miles
Crew	4

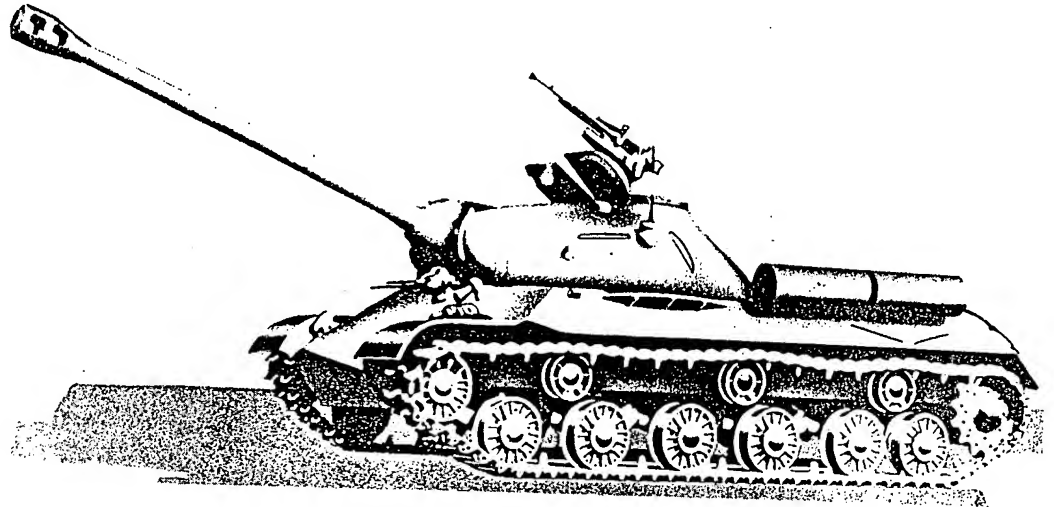
Developed from T-55. Distinguishable from T-54/55 series by spacing of road wheels, larger, more circular turret, longer hull, and 115mm smoothbore gun with bore evacuator mounted in middle of tube. Designed to support T-55 against 105mm NATO tank guns. Used by Soviet and probably Czechoslovak forces.

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TANKS

JS-3 Heavy Tank



Introduced	1945
Main armament	122mm tank gun
Weight	50.6 tons
Speed	23 mph
Cruising range	112 miles
Crew	4

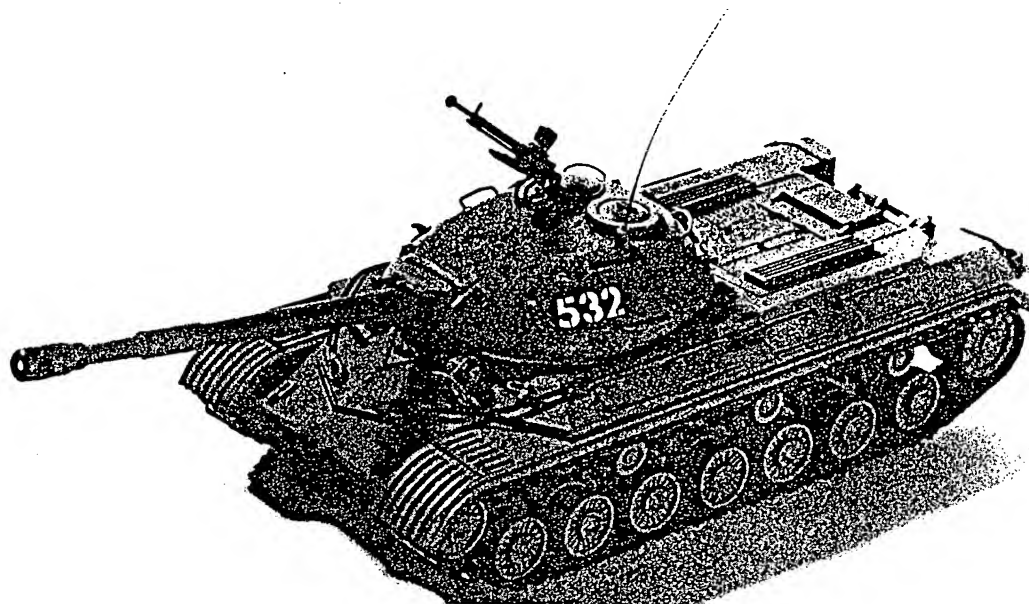
Features sloping, angular armor and low silhouette. Largely replaced in Soviet units by T-10 heavy tank, but still used in other Warsaw Pact forces and in countries which have received Soviet military aid.

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TANKS

T-10, T-10M Heavy Tank



Photograph of model

Introduced	1953
Main armament	122mm tank gun
Weight	55 tons
Speed	30 mph
Cruising range	155 miles
Crew	4

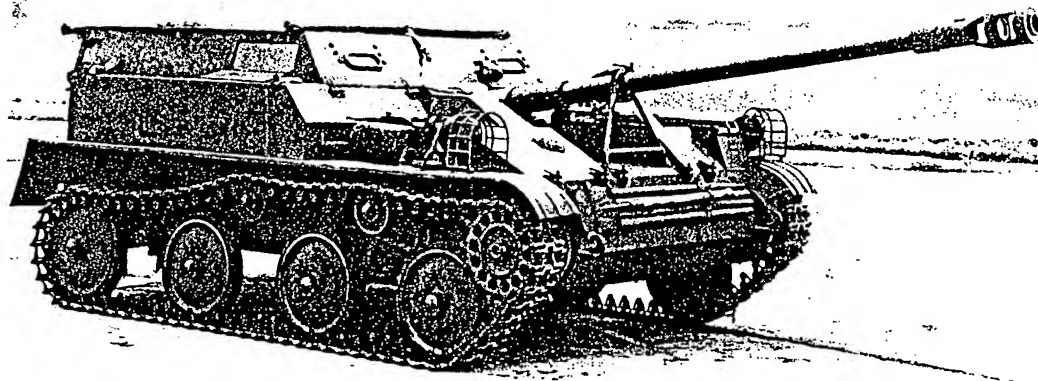
Resembles JS-3 which it has largely replaced. Distinguishable from JS-3 by more angular hull armor, 14 vice 12 road wheels, and bore evacuator mounted on gun. Improved version, T-10M, first seen in 1958, has overhang welded on rear of turret, longer gun, and night vision devices.

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ASSAULT GUNS

ASU-57 57mm Airborne Assault Gun



Introduced	by 1953
Weight	3.7 tons
Speed	28 mph
Cruising range	155 miles
Crew	3

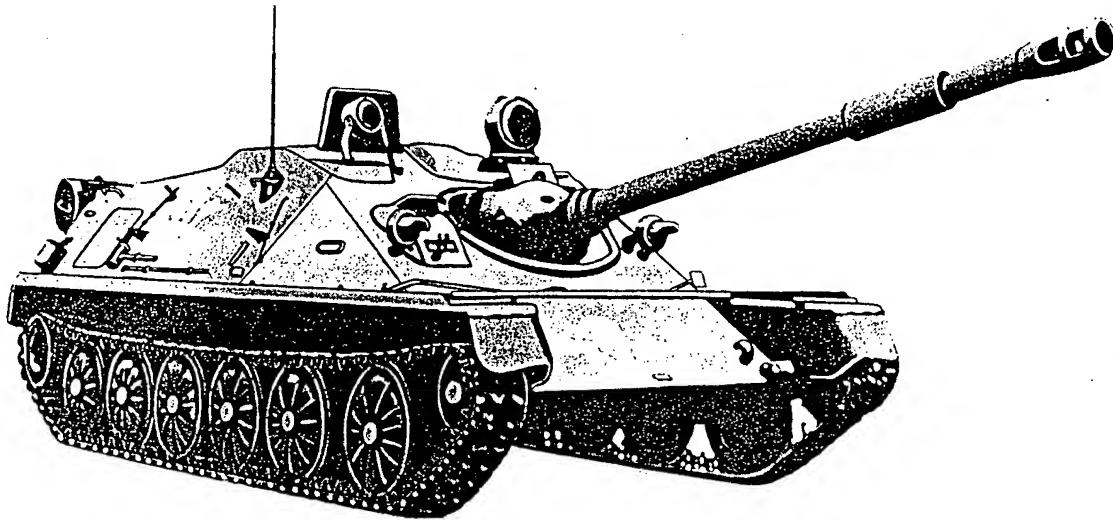
Can be air-dropped. Can carry three riflemen in addition to three-man crew. Lightly armored with low silhouette and open top. Two versions: long-barreled and more common short-barreled. Assigned to Soviet airborne units.

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ASSAULT GUNS

ASU-85 85mm Airborne Assault Gun



First observed	1962
Weight	13 tons
Speed	28 mph
Cruising range	150 miles
Crew	4

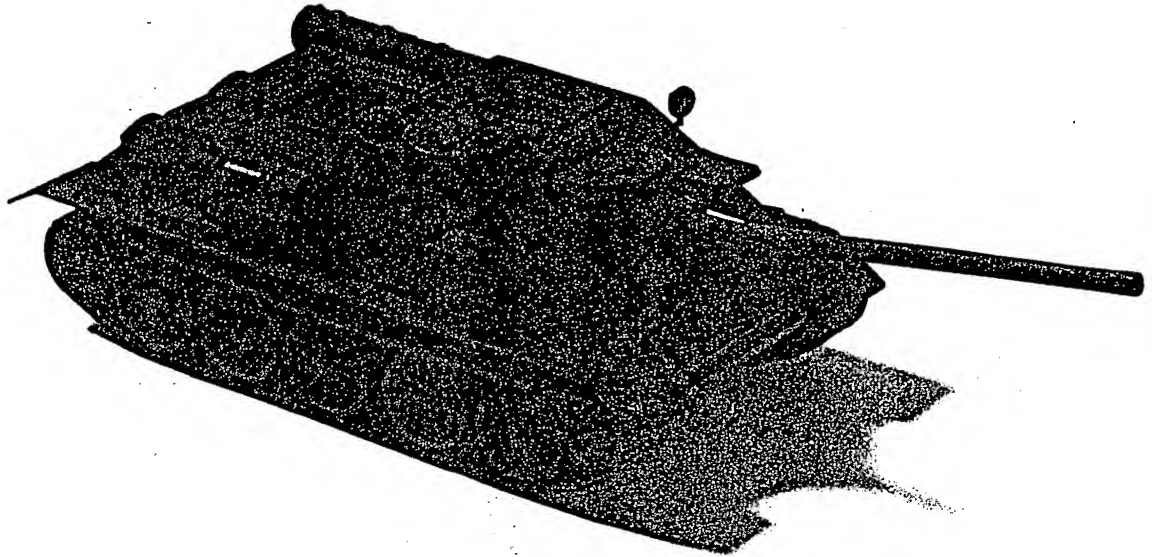
Can be air-dropped. Designed to provide antitank support for airborne forces. Full armor and larger gun make it an improvement over ASU-57. Used widely in Soviet forces and to a limited extent in Poland.

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ASSAULT GUNS

SU-100 100mm Assault Gun



Photograph of model

First observed	1945
Weight	33.1 tons
Speed	35 mph
Cruising range	190 miles
Crew	4

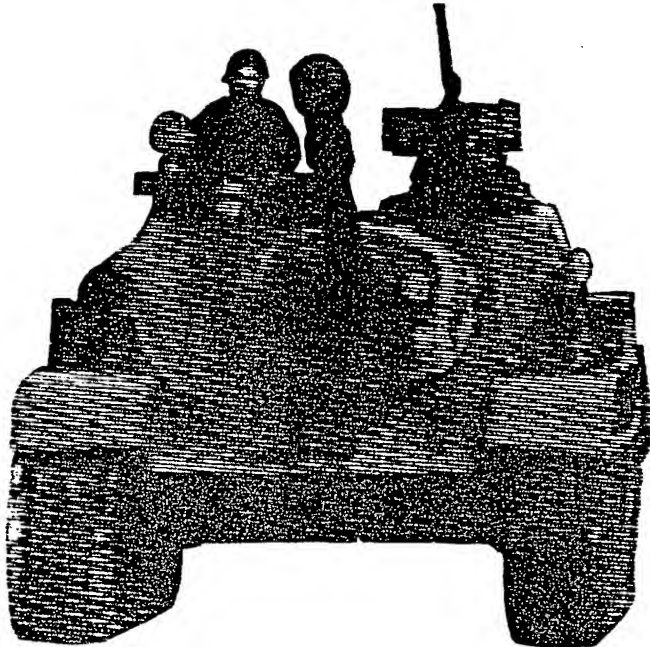
Mounts 100mm gun on T-34 medium tank chassis. Still used in some Soviet units and other Warsaw Pact forces, as well as in countries which have received Soviet military aid.

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ASSAULT GUNS

**SU-100 100mm Assault Gun
(M-1968)**



First observed	early 1968
Weight	40 tons
Speed	31 mph
Cruising range	216 miles
Crew	3-4

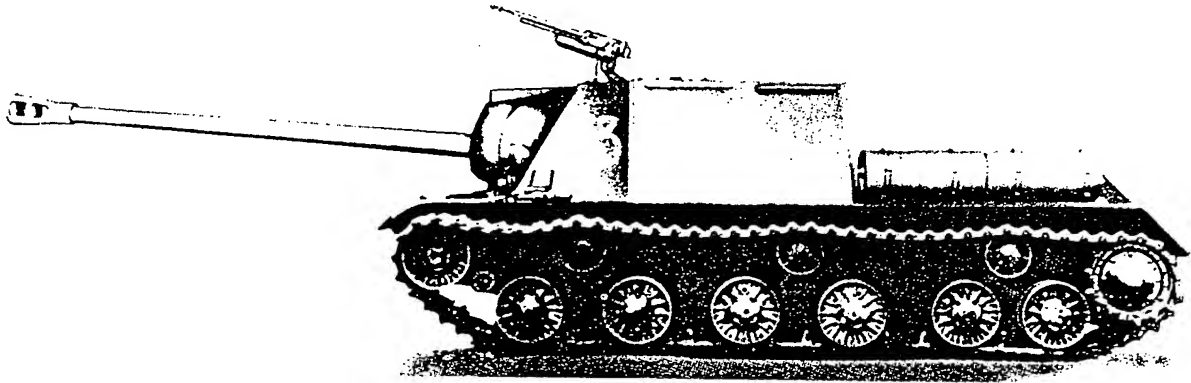
Probably intended as replacement for aging SU-100. Believed to mount modified 100mm gun similar to T-55 tank gun and M-1955 field gun. Gun is mounted in box body on modified chassis of T-54/55 tank. Vehicle probably has same weight and performance characteristics as tank.

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ASSAULT GUNS

JSU-122 122mm Assault Gun



First observed	1944
Weight	50.6 tons
Speed	. 23 mph
Cruising range	85 miles
Crew	5

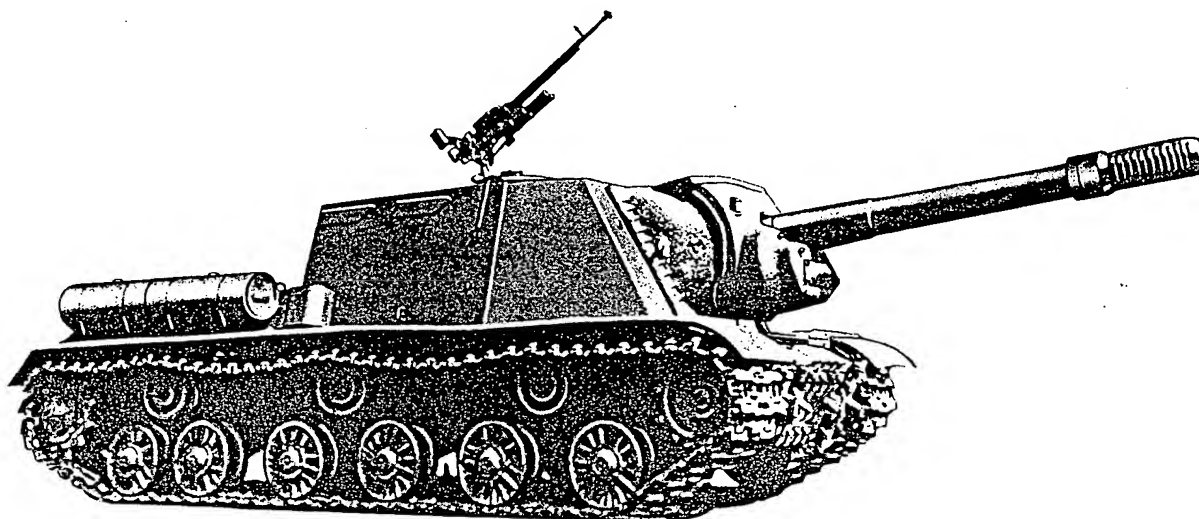
Consists of 122mm artillery piece mounted in armored superstructure on JS heavy tank chassis. Believed to be obsolete in Soviet forces but still in use in other Warsaw Pact countries. Recently appeared with Communist forces in Southeast Asia.

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ASSAULT GUNS

JSU-152 152mm Heavy Assault Gun



First observed	1944
Weight	51.2 tons
Speed	23 mph
Cruising range	85 miles
Crew	5

Mounts 152mm gun with limited traverse and protruding mantlet on JS heavy tank chassis. Similar in appearance to JSU-122 but has shorter gun. Still used in some Soviet units and in other Warsaw Pact forces.

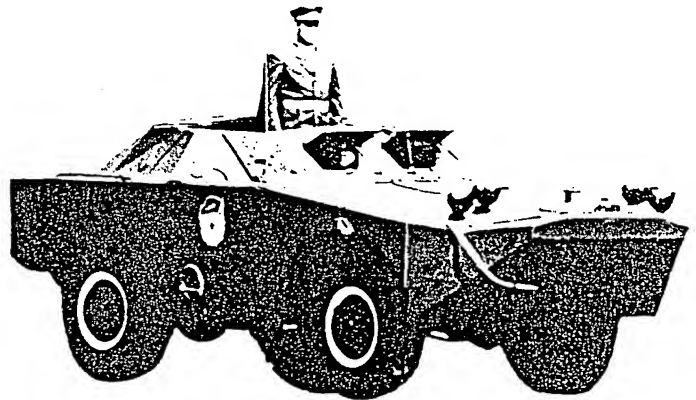
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RECONNAISSANCE VEHICLES

BRDM Amphibious Armored Reconnaissance Vehicle

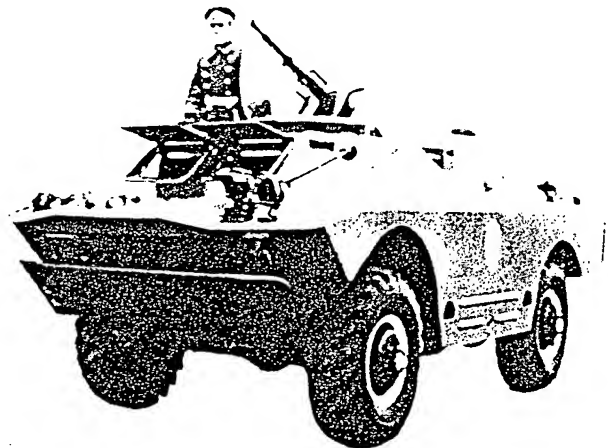
First observed	1959
Main armament	usually 7.62mm machine gun, antitank missiles
Weight	6.17 tons
Speed, land	50 mph
water	5.5 mph
Cruising range	310 miles
Crew	5



Has four main wheels. Four auxiliary wheels in belly can be raised or lowered as needed. Produced in three other versions, each specially designed to carry Snapper, Swatter, or Sagger antitank missiles. Used by Soviet and some other Warsaw Pact forces and in countries which have received Soviet military aid.

BRDM-2 Amphibious Armored Reconnaissance Vehicle

First observed	1966
Main armament	14.5mm heavy machine gun, 7.62mm machine gun
Weight	about 7.5 tons
Speed	unknown
Cruising range	unknown
Crew	3-4



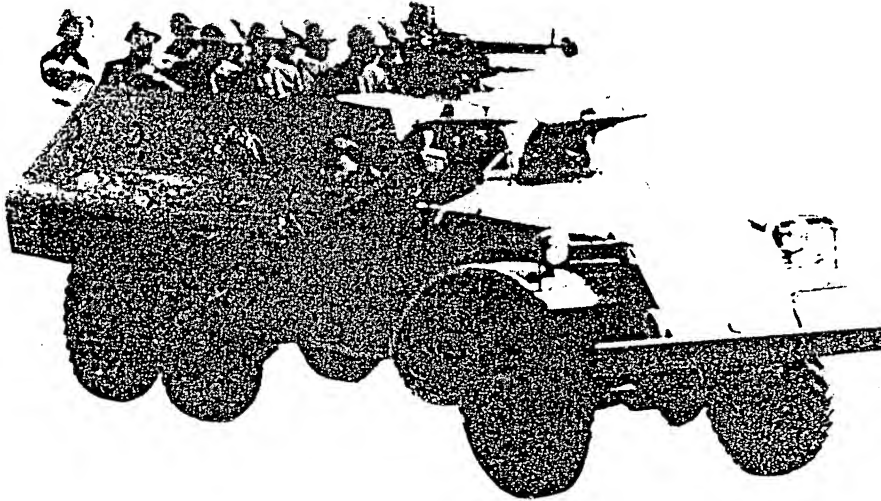
Probably will replace original BRDM in reconnaissance role. Basically same type of vehicle with four road wheels and four auxiliary wheels in belly. BRDM-2 distinguishable by heavy machine gun mounted in conical turret.

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ARMORED PERSONNEL CARRIERS

BTR-152 Armored Personnel Carrier



Introduced	1950
Main armament	7.62mm machine gun
Weight	9.9 tons
Speed	40 mph
Cruising range	490 miles
Capacity	1 driver, 18 troops

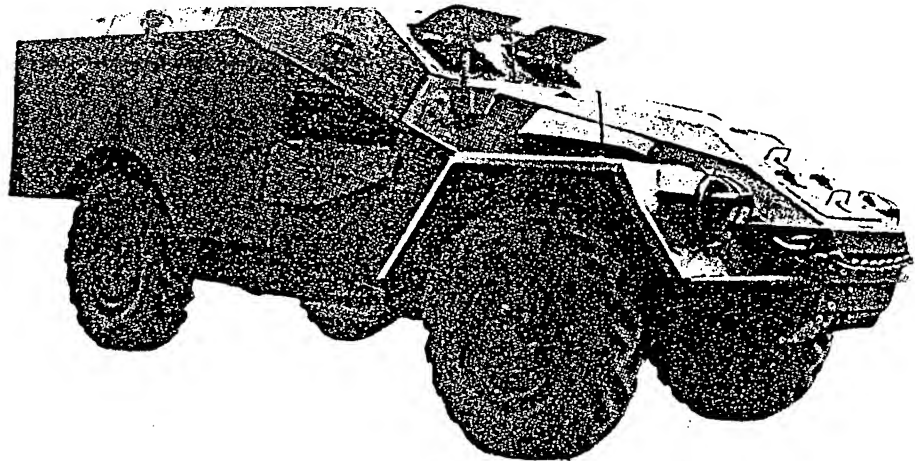
Not amphibious. Produced in many different versions-- covered, open top, and mounting AA guns. Gradually being replaced by BTR-60P armored personnel carrier. BTR-152 for years was standard armored personnel carrier in Soviet and other Warsaw Pact forces. Also used by Arab forces in the Middle East.

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ARMORED PERSONNEL CARRIERS

BTR-40 Armored Personnel Carrier



Introduced	1951
Main armament	usually 7.62mm machine gun
Weight	5.8 tons
Speed	50 mph
Cruising range	400 miles
Capacity	2 crew, 8 troops

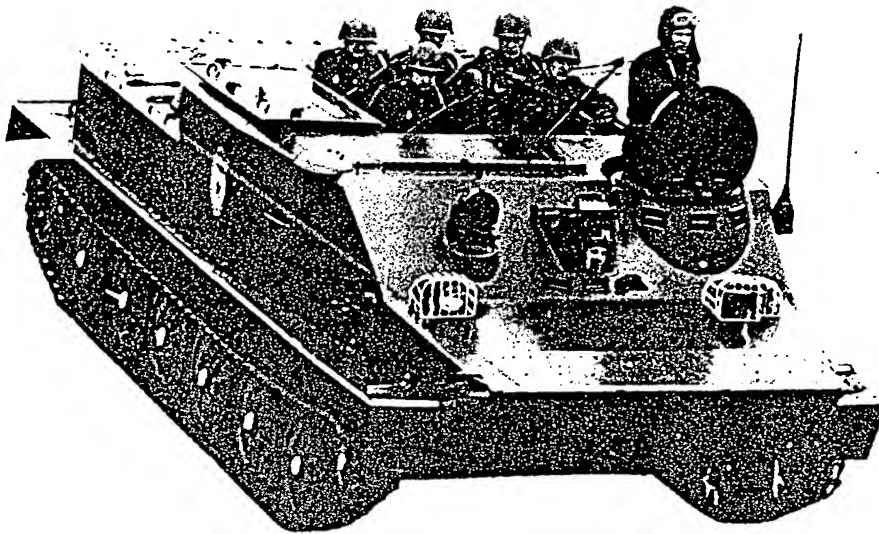
Primarily used as command and reconnaissance vehicle. Some versions mount twin 14.5mm antiaircraft heavy machine guns in open turret in troop compartment. Replaced in Soviet and some Warsaw Pact forces by BRDM. Used in countries which have received Soviet military aid.

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ARMORED PERSONNEL CARRIERS

BTR-50P Armored Personnel Carrier



First observed	
(original models)	1955
Main armament	usually 7.62mm machine gun
Weight	16 tons
Speed, land	27 mph
water	6 mph
Cruising range	155 miles
Capacity	2 crew, 18 troops

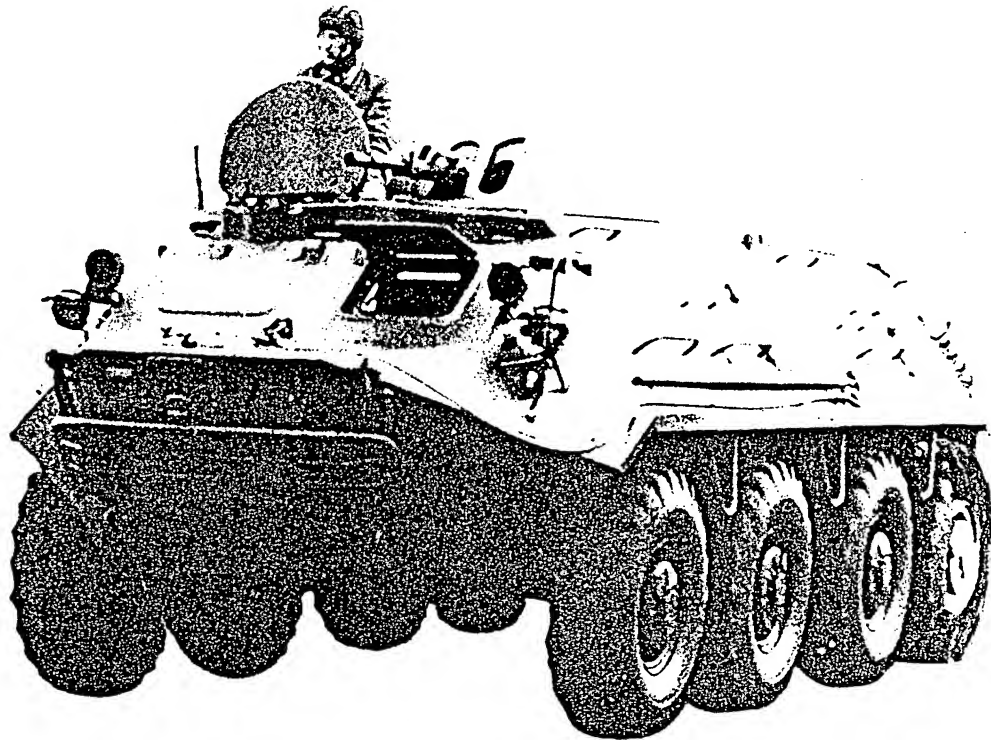
Amphibious. Based on PT-76 tank. Common variations of BTR-50P include covered version and open top command vehicle with two cupolas in front. Used in Soviet forces and countries which have received Soviet military aid. Czechoslovakia produces own version, OT-62.

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ARMORED PERSONNEL CARRIERS

BTR-60PB Armored Personnel Carrier



First observed	1961
Main armament	usually one 14.5mm and one 7.62mm machine gun
Weight	11 tons
Speed, land	50 mph
water	6.2 mph
Cruising range	375 miles
Capacity	1 driver, 18 troops

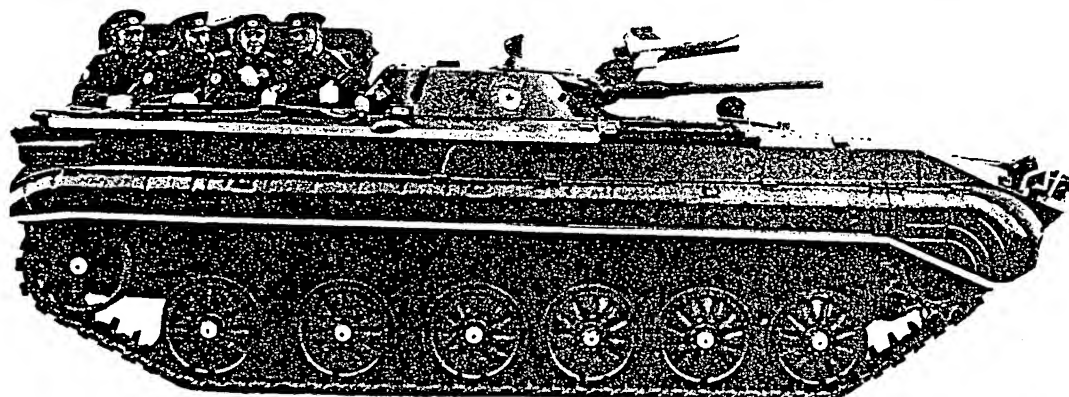
Amphibious, boat-shaped, with eight wheels. Also seen in two other versions--covered and open. Used in Soviet and other Warsaw Pact forces, and seen in Cuba. Similar vehicle, OT-64, is produced in Czechoslovakia and Poland.

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ARMORED PERSONNEL CARRIERS

Amphibious Armored Infantry Combat Vehicle (AAICV)



First observed	1967
Main armament	76mm smoothbore gun, Sagger antitank missile
Weight	about 15 tons
Speed, land	27.3 mph
water	6.3 mph
Cruising range	149 miles
Capacity	3 crew, 8 troops

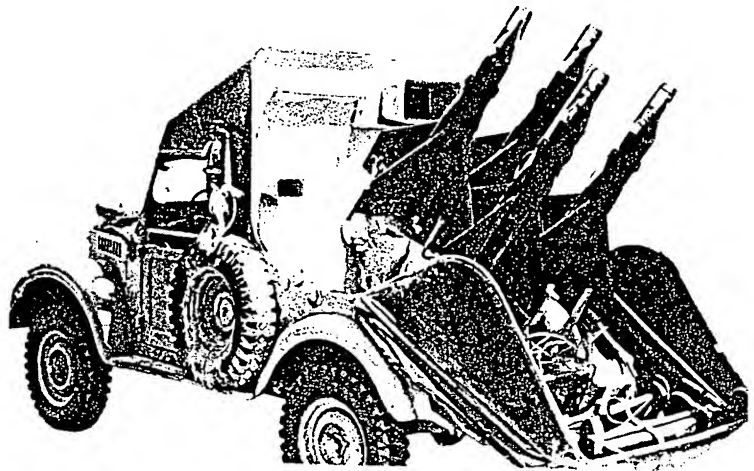
Probably designed to replace PT-76 amphibious tank and armored personnel carriers in reconnaissance role. Sagger missile is capable of engaging heaviest armored vehicles.

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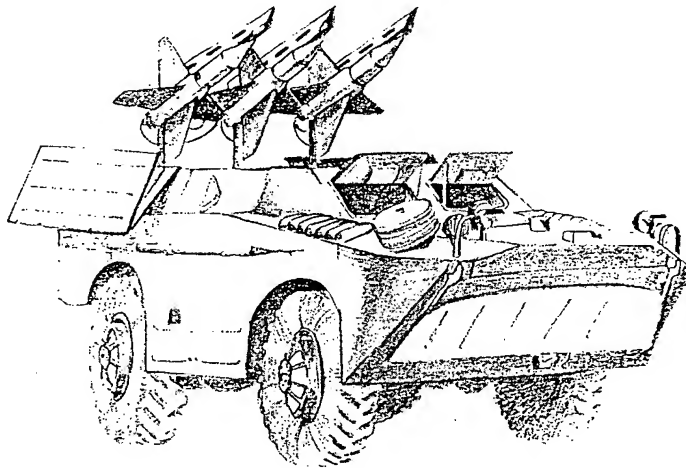
ANTITANK GUIDED MISSILES

AT-1 Snapper



Introduced	early 1960s
Range, maximum	2,200 yds
minimum	656 yds
Guidance	wire
Armor penetration	12 inches
Launch platform	GAZ-69 BRDM
Cruising range	225 miles 310 miles
Missile load	4 3

Capable of engaging heaviest armored vehicles. Mounted on either GAZ-69 truck or more modern BRDM amphibious armored reconnaissance vehicle. GAZ-69 (photo above) mounts four missiles in square. BRDM mounts three abreast on retractable pylon (illustrated below). AT-1 is distinguished from AT-2 and AT-3 by larger, more triangular fins. AT-1 has been exported to Warsaw Pact countries, Afghanistan, Cuba, and Egypt.

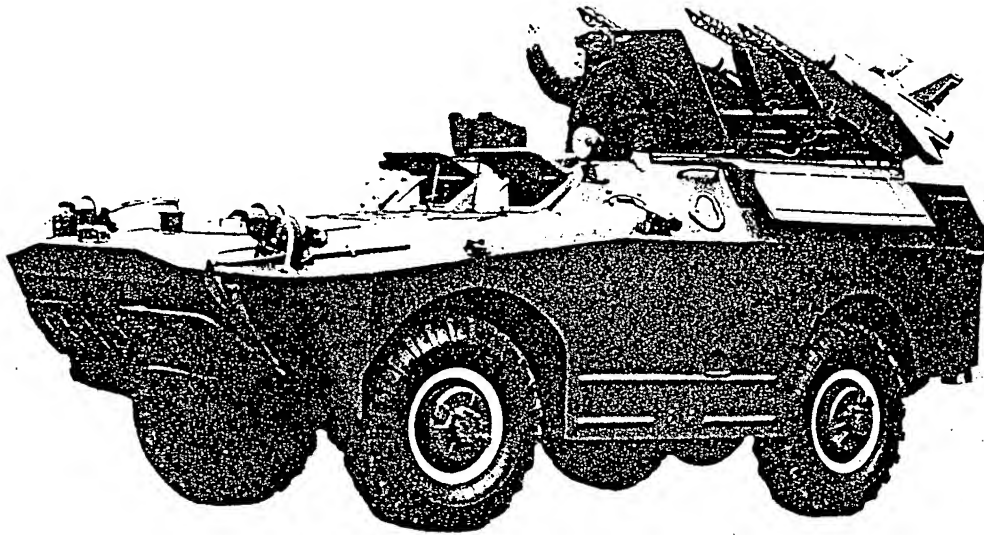


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ANTITANK GUIDED MISSILES

AT-2 Swatter



Introduced	early 1960s
Range, maximum	3,300 yds
minimum	600 yds
Guidance	radio
Armor penetration	19 inches
Launch platform	BRDM
Cruising range	310 miles
Missile load	4

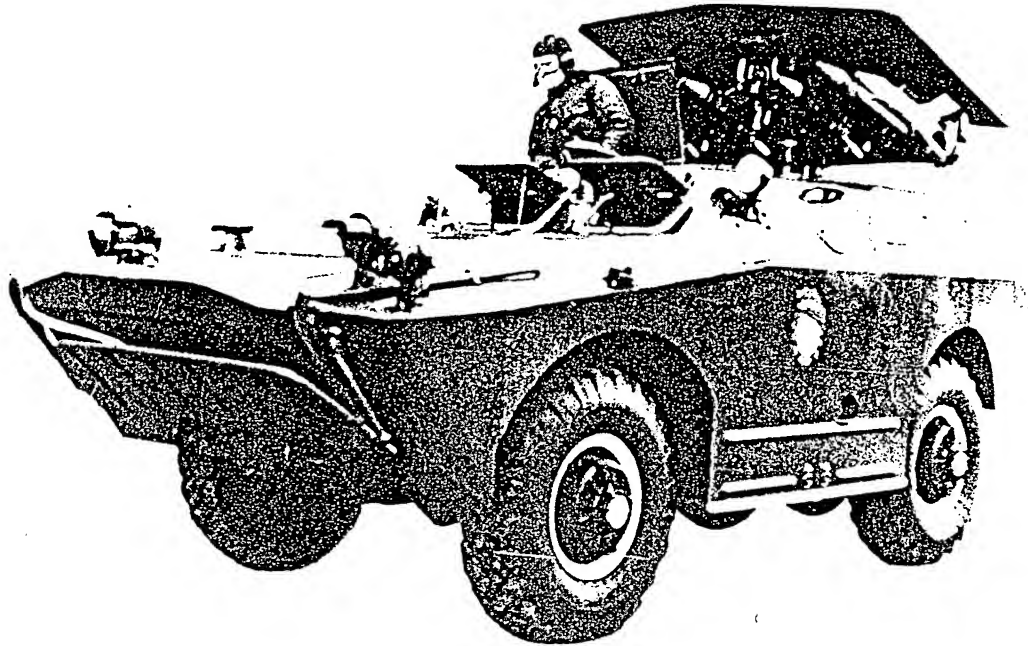
Capable of engaging heaviest armored vehicles. BRDM amphibious vehicle mounts four AT-2s on retractable pylon. Used in Soviet and some other Warsaw Pact forces.

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ANTITANK GUIDED MISSILES

AT-3 Sagger



Introduced	mid-1960s
Range, maximum	2,750 yds
minimum	219 yds
Guidance	wire
Armor penetration	16 inches
Launch platform	BRDM
Cruising range	310 miles
Missile load	6

Capable of engaging heaviest armored vehicles. BRDM amphibious vehicle mounts group of six AT-3s on retractable pylon with armored cover. Portable version of AT-3 can be carried and fired by one man. Used by Soviet and Czechoslovak forces.

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